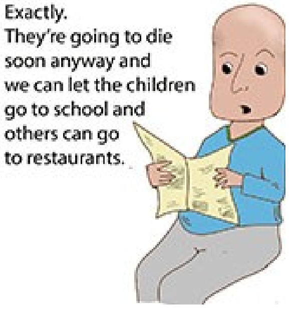
CORONA STRESS

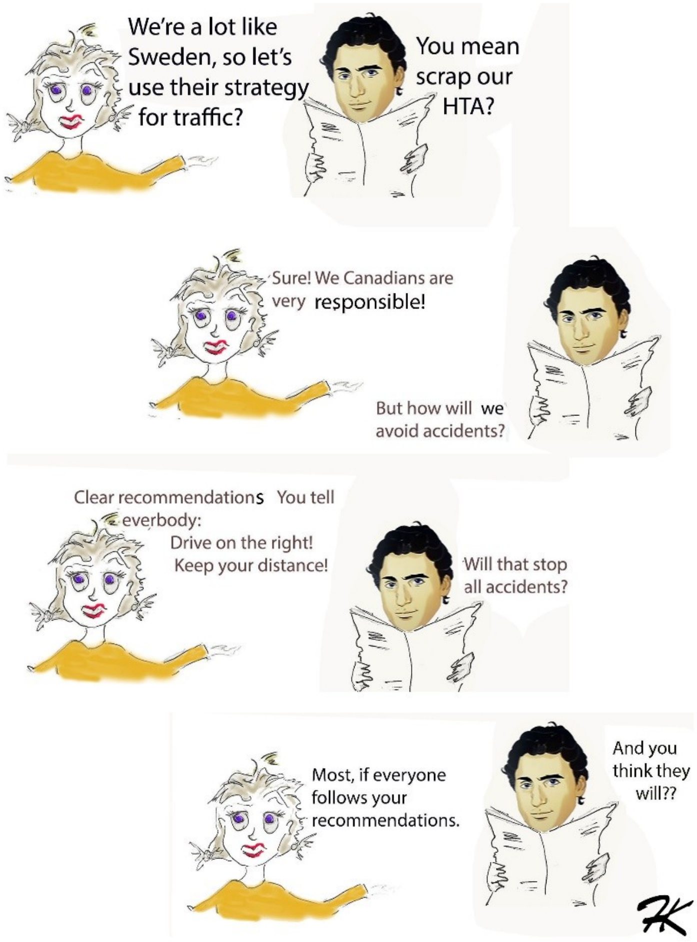
A time to experiment?

Bob Kaill

Did you say put the old people in the cage??


Exactly. They're going to die soon anyway and we can let the children go to school and others can go to restaurants.

Prologue by Canadian Bob


We're a lot like Sweden, so let's use their strategy for traffic?
You mean scrap our HTA?
Sure! We Canadians are very responsible!
But how will we avoid accidents?
Clear recommendations You tell everbody: Drive on the right! Keep your distance!
Will that stop all accidents?
Most, if everyone follows your recommendations.
And you think they will??

It was sometime in early March. I don’t remember the date, but I had been wondering for some days what the Swedish government was going to do about the corona virus. Then I heard the recommendations and immediately turned to my wife and said:

> ***“Anne, did you hear? That will never work here. There’ll be a lot of deaths, especially in the elderly care facilities! Judging from other countries five to six thousand.”***

The consulting work that I had done with elderly care workers in three districts (communes) told me that the virus was sure to be spread in many of the elderly care centers in many communes throughout the country. I was, of course, not the only one with this information about elderly care facilities. As a Swedish national newspaper, Dagens Nyheter quoted a researcher Olivia Wigzell on their editorial page on 20100518 in an article entitled ***“Sweden’s Strategy is built on wishful thinking”:***

> ***Anyone who knew anything about the elderly knew it would be like this.***

Although a Swedish citizen, I am also a Canadian and have spent 35 years of my life (almost half) in Canada. Therefore “my cultural influences” vary somewhat from most other Swedes.

From very early on, I have been interested in how to help people cope with stress. As a 20-year old student minister at a United Church of Canada, I had to console a young couple and perform the funeral for their 14-year-old son who, when out riding his bike, was struck and killed by a truck. That was after 2 years of university education in Sociology and social psychology. Since then I have had a further 10 years of undergraduate and graduate education in a multitude of subjects concentrating on sociology, psychology, education, and statistics. In addition since 1982, I have been to several conferences and courses on Mental training and worked to some extent with the Swedish Mental Training Expert Lars-Eric Uneståhl of the Scandinavian International University.

During the 57 years since that funeral for the 14-year old boy, I have had extensive experience with other people in various kinds of stress. Athletes, I have coached, experience stress before world orienteering championships and Swedish Athletic championships, as do 10-year-olds before their first experience on their own out in the forest.

There are some similarities in how stress is handled by bereaved parents, athletes, youth, aged, students defending their theses, and most other people.

I believe I have carried out the only study done on how a group of people react to instructions from authorities to change their normal behaviour because of death risks from a virus. This two-year study was somewhat summarized in my thesis in education: ***COPING WITH STRESS: sudden death among orienteers, 1999.***

Obviously, I take everything around this Pandemic seriously, while at the same time I think it ***important to laugh*** (sometimes at oneself) if one is ***to balance the good and the bad,*** as well as ***reduce negative stress***. Therefore, I have elected to include some “cartoons” to humorously look especially at what I think are serious mistakes. All of the best illustrations were drawn by a good friend of mine, Hanna Kumlin, whom I thank for her contributions and inspiration.

While I am responsible for any errors in this book, I have to thank my two Ottawa friends, Murray and Aileen Shaw, for reading the manuscript and coming with many constructive ideas.

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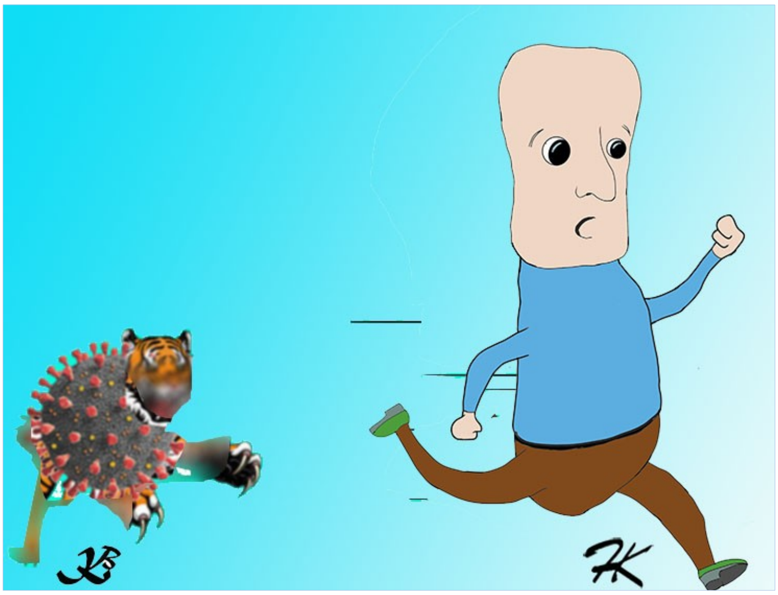
Chapter 1 – Introduction



The corona virus pandemic has meant that many, if not most, people have become interested in how viruses are spread and the different attempts to influence the spread. In the present case of Covid-19, most countries have attempted what is called a “lock down”. One noted exception is Sweden and thus as a Swedish citizen and resident with direct access to local newspapers and personal observation of behaviour here, it is convenient to start from Sweden when surveying how people react to the thought of the virus and to the various attempts that governments have made at containing the spread. Sweden is especially interesting since although it often thought of as a country that emphasizes human rights and equality, it has used age discrimination as a major weapon to control the spread of Covid-19.

As mentioned in the Prologue above, I carried out a study on Swedish orienteers during the 1990s after a series of sudden deaths among elite orienteers.

In the fall of 1992, a story about a 26-year old orienteer’s death was spread over the Swedish newspapers. Melker was an elite orienteer who had just been out for an easy training run when he fell down and died. He was the latest of a large number of elite orienteers that had died in mysterious circumstances during the previous 14 years. During just the last 24 months, 6 orienteers, all of national team status, had died.

No one knew the cause of these sudden deaths, but probably partially because of the spread of jaundice (ie. condition caused by the hepatitis B virus) among orienteers in the 1960’s which killed a large number of orienteers, there was fear of a new virus circulating among the orienteers in Sweden.

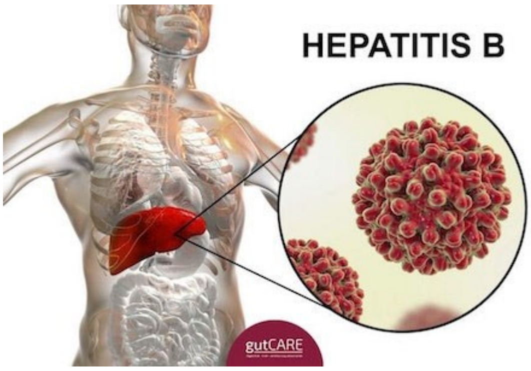
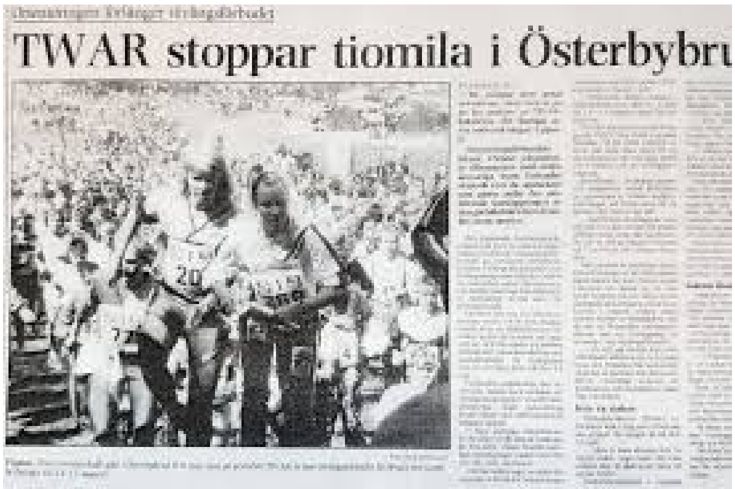


Figure 1

Some viruses such as hepatitis B and C can survive in the body and continue to replicate resulting in a lifelong infection. People infected even without symptoms can be carriers. Not surprisingly, fear of such a virus caused alarm among orienteers.

Then I read in January, 1992, that the Swedish Orienteering federation had cancelled all elite competitions for 6 months (until June 15) and recommended that orienteers stop training for a while or at least cut back significantly. Recommendations included that clubs were not to have any group training.



TWAR stoppar tiomila i Österbybru

Figure 2

To examine how orienteers reacted to the deaths and recommendations to change their training routines, I received funds for a two-year study of Swedish orienteers.

My two-year study resulted partially in ***COPING WITH STRESS: sudden death among orienteers, 1999.***

Having seen how Swedish orienteers reacted to the recommendations from SOFT (the national governing group for orienteers) I could guess how Swedish people would react to the type of recommendations from the Swedish health authorities.

Now, although after five months the Swedish death toll has not yet reached my predicted 6000, I am hoping that I can contribute to the understanding of how people react in stressful situations and how authorities can get people to follow their recommendations.

In the following pages I will try to explain ways to interpret the behavior of different populations, in particular the Swedish population, to the strategy used in their country. I call the Swedish strategy an experiment since it appears to have been decided upon by the scientific health authorities interested in ***exploring what might work***. A comparison will be made to the Norwegian strategy where the health authorities had recommended a strategy very similar to the Swedish one. In Norway, however, this strategy was overruled by the politicians.

I do not wish to imply that the Swedish health authorities or the decision makers in other countries do not know how viruses tend to spread. My major concern in this book is not in how viruses spread, but in ***how you get populations to inhibit the spread.***

One does not need to be a scientist to know that the spread of Covid-19 caused and continues to cause a lot of stress for many people. I even propose that it causes stress in, more or less, all people. Individuals under stress, especially extreme stress, can react very differently from one another and therefore, if one wants to influence their behaviour in a particular direction, one will probably have to use different methods for different groups of people.

As the CDC in the USA wrote:

> ***The coronavirus disease 2019 (COVID-19) pandemic may be stressful for people. Fear and***

> ***anxiety about a new disease and what could happen can be overwhelming and cause strong emotions in adults and children. Public health actions, such as social distancing, can make people feel isolated and lonely and can increase stress and anxiety.***
> ***(https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html)***

In the following pages I will attempt to explain simply some of the “science” behind the spreading of viruses, a little of the strategies used in different countries, a larger analysis of the Swedish experiment, some suggestions as to how individuals can reduce their personal stress while inhibiting further spread of the virus, and finally some suggestions as to how to change people’s behaviour in such situations.

I will take up some of the theoretical considerations with reference to stress. These were the major reasons that I expected the results from orienteers that I presented in my dissertation and why I expected the death toll in Sweden to be high despite the high level of health care, low population density and borders of water.

During the past hundred years there have been many theories advanced concerning how people think and make their decisions. We all know that negative stress has become a major problem resulting in much depression and in many cases death. Dr. Harris in her book ***the deepest well*** (2018) discusses how negative stress relates to heart attacks, cancer and other diseases causing shorter life spans. Therefore, theories of ***how individuals and groups cope with stress*** is of fundamental importance when deciding how to handle the Covid-19 pandemic.

While presenting some scientific theory and practical results, I attempt to do this in such a way that even people with no background in these particular areas will understand what I write. Much of what I write can be controversial, but I hope that you can find some positive uses for some of these ideas.

In the final chapters I give a series of recommendations concerning how individuals might positively cope with a) the present pandemic, b) other catastrophes that may well come in the future, and c) more everyday situations.

I also give some suggestions as to how governments should look at their role in national/international emergencies as well as how to be more successful in getting populations to follow guidelines for coping successfully with such emergencies.

I talked via Skype recently with my sister in Nova Scotia, who said that they just had an upswing, but hoped they would quickly get it under control. The same day my wife asked me if there was anything new in the newspaper this morning and I said “3 deaths from Covid,” to which she replied “that’s good.”

Where is the spread of the virus worse? In Nova Scotia or Sweden?

The background to my sister’s comment was that Nova Scotia had had 20 days with no infections and suddenly they now had four infections, which was a clear upswing.

The background to my wife’s statement was that 5,700 people had died in Sweden because of Covid-19 (an average of 150 per day) and now we were down to only 3 deaths over the weekend. Here in Sweden this is looked at as stable and good!

I completely agree with Richard Horton who writes in his ***The Covid-19 Catastrophe (2020)***:

> ***At press conference after press conference, government ministers and their medical and scientific advisors described the deaths of their neighbours as "unfortunate". But these were not unfortunate deaths. They were not unlucky, inappropriate or even regrettable. Every death was evidence of systematic government misconduct – reckless acts of omission that constituted breaches in the duties of public office. (p.viii)***

Much of what I write concerning the attempts to inhibit the spread of Covid-19 and in particular the Swedish Experiment with age discrimination, starts from my personal value that the life of each individual is important and one should not play one group against another.

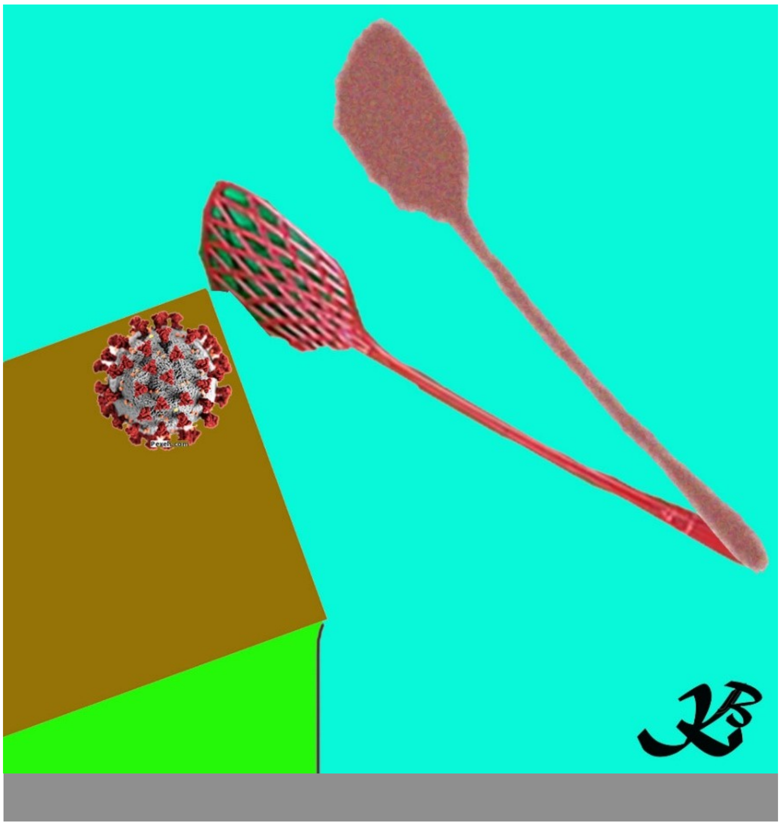
Although in this book I will be taking up different national strategies, it is important to point out as written in the ***2020 Goalkeepers report:***

> ***There is no such thing as a national solution to a global crisis. (p.3.)***

While writing in this book mostly about this pandemic mostly as a health catastrophe, it concerns much more than physical health. Again I use a quote from the ***2020 Goalkeeper report,*** where the present situation is compared to the 1918 influenza pandemic in India:

> ***…in the blink of an eye, a health crisis became an economic crisis, a food crisis, a housing crisis, a political crisis. Everything collided with everything else. (p.4.)***

Chapter 2 – What is a Virus?



Another one,,,   Got it!!

For many years, scientists could not agree as to what viruses were. They have been thought of as poisons, biological chemicals, or perhaps some lifeform. Today viruses are thought of as being somewhere between a living organism and a non-living agent. For a long time, they were not even considered in the study of evolution. It is easy to talk about viruses as if they were living since the borderline between existing and living is often very nebulous. Later for example we will talk about that the covid-19 virus existing on a rail for two or three days before it ceases to exist as an entity. Often in such cases people will say that the virus lives for 2-3 days on these surfaces. Talking about a virus as alive can easily lead us to thinking that the virus spreads itself, but it does not. Just as a rock does not move itself or multiply on its own a virus does not move or multiply on its own.

While a bacterium is a one-cell living organism with its own metabolism, multiplies by self-division, and can exist on its own, ***viruses have no metabolism and can only multiply in a living host.*** Viruses are infectious agents that usually consist of a nucleic acid molecule in a protein coat that can multiply only in the living cells of animals, plants, or bacteria. Their size ranges from 20-400 nanometers. (1 nanometre = 10^{-9} meters).

A virus can exist outside of a living cell, but usually only for a relatively short time. It is only after a virus infiltrates a living cell in an animal or plant that it can multiply.

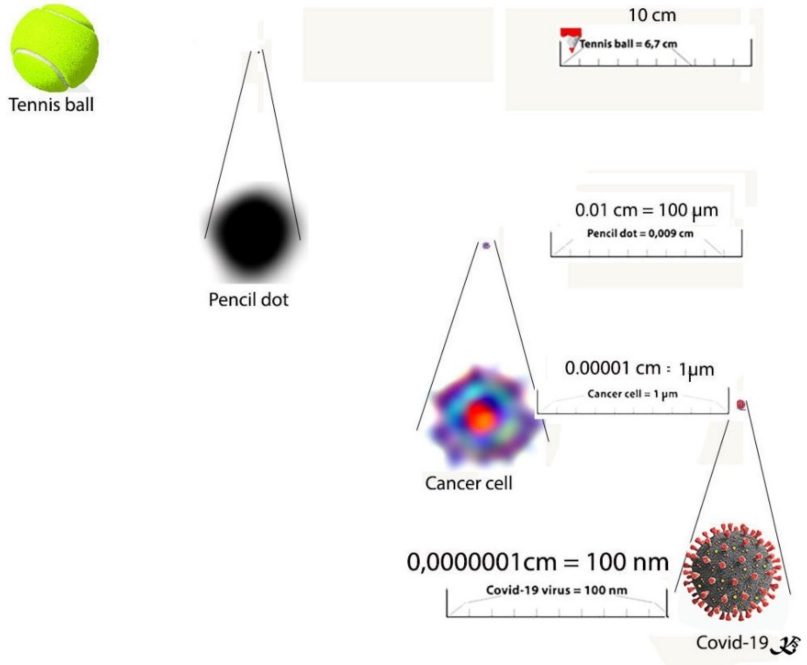


Figure 3

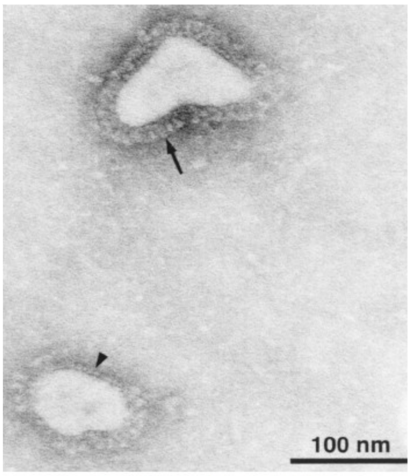
It is probably difficult, if not impossible, to actually get a sense of how small such nano objects actually are. In figure 3 above I have tried to create an impression of the size by relating to objects we actually can see such as a tennis ball and a dot from a pencil. Most of us have looked through a microscope and seen an enlarged version of something small. Such microscopes can not “see” a virus. An electron microscope can detect many nano objects and draw representations of them on a paper. However, when a scientist talks about them moving in the air, he/she is not talking about an observation that has been seen, but rather talking about theoretical assumptions as to the proposed movement.

You may sometimes hear people talk as if the virus can move itself somewhat randomly. You may even hear scientists talk in this way and it may make some sense in science when talking about groups as groups, and not individuals. It would seem, however, that “randomly” is often used as an equivalent to “we can’t trace it” or “we don’t know who it will infect next”. Of course, scientists are often more interested in what percentage of a group is infected rather than what happens to any particular individual in the group. In contrast, we as individuals are more interested in what might happen to oneself and the individuals we are closest to.

However, ***viruses do not travel around on their own***. In the case of Covid-19, transportation is carried out by humans and the air that they breath out. In other words, viruses do not spread, but ***viruses are spread***.

Coronaviruses are shaped somewhat like a halo or crown and have on the average 74 surface spikes. They are RNA viruses that cause respiratory infections in birds and mammals that can range from the common cold (sometimes also caused by rhino-viruses) to more serious infections that can result in SARS, MERS and COVID-19. MERS for example kills 30% of those infected, so it is fortunate that it did not spread more widely.

So far there exist no vaccines to prevent any human coronavirus infection. The Covid-19 virus, as other viruses, does not move around on its own. It is carried by human individuals and can only exist outside of the human body for a relatively short



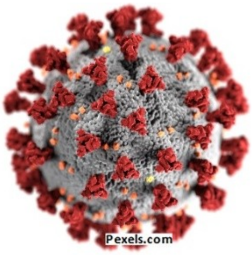
Actual Coronavirus particles (80 to 120 nm in diameter) identified in infected HRT cell supernatant fluids.
(**James S Guy**, 34.27North Carolina State University)

time. This is important to remember when we talk about how a virus spreads. Internally it can multiply and spread in a single individual, but similar to other viruses, it does not move around of its own volition, but is moved by its human host, sometimes with some help of water droplets in the air/wind.

Figure 4

The Covid-19 virus is approximately 125 nm in diameter and causes mostly respiratory tract infections. When observed with an electron microscope (picture above) they appear to have viral spike pepiomers (red) that look like a corona surrounding the virion. Too better understand the structure of the virus you will often see a more symbolic illustration of the virus (Figure 5).

When the COVID-19 virus gets introduced into a new system its viral spike protein attaches to a receptor in a host cell, which



activates the spike protein and the virus enters the host cell.

Figure 5

Since viruses are acellular, they do not grow by cell division, but rather use the machinery of their host cell and the host cell´s metabolism to produce copies sometimes in the thousands. Often the host cell dies and the viruses travel further through the human body attaching themselves to new cells. Some cells are more hospitable than others.

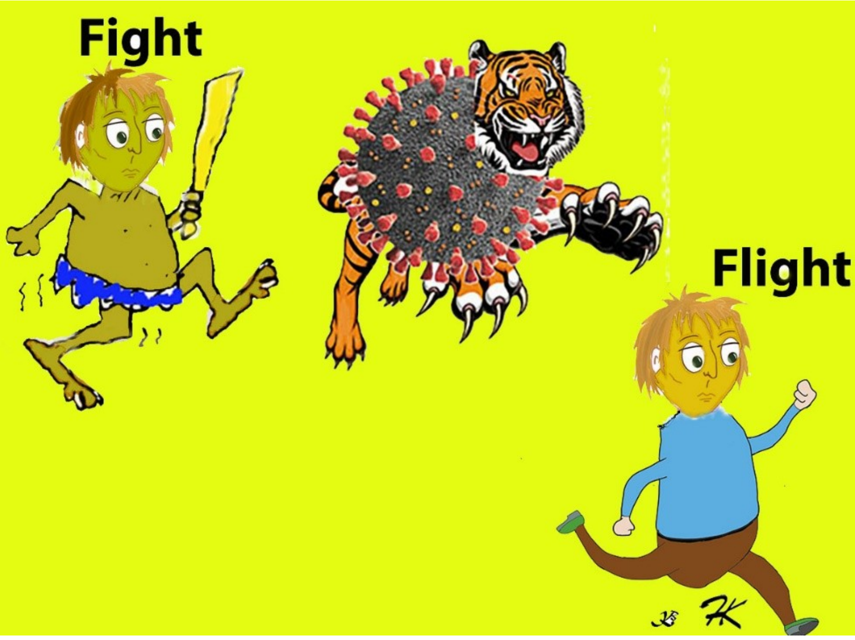
In the case of Covid-19, it usually enters a human by being breathed in. If the virus is moved down your throat to your stomach and intestines, it may pass through your system with no problem. If, however, it goes down your windpipe into your lungs then you may well have a problem. The lungs' cells are very hospitable to the Covid-19 virus and have a protein similar to the spikes on the virus. When a spike meets the protein on the cell, it is drawn into the cell. After a virus has gained access to a cell, the host's RNA converts from reproducing itself to mass producing the virus protein and thus more virus. This production of more virus eventually kills the cell and the new viruses proceed to attach to a larger number of cells. While this reproduction is going on, cytokine, an element in the body’s immune system may cause an over-production or storm of other elements that create inflammation. This inflammation can contribute to severe problems for the lungs and may lead to the use of a respirator to assist in the supply of oxygen. In successful cases, the respirator gives the immune system time to produce antivirus which destroy the virus before the body dies. In some cases, the lungs do not respond positively to the extra oxygen supplied by the respirator and in some cases, respiratory treatment can actually promote death.

Covid-19, sometimes in combination with cardiovascular and cerebrovascular disease as well as diabetes, can result in death. Sometimes Covid-19 also seems to induce cellular immune deficiency, coagulation activation, myocardia injury, hepatic and kidney injury, and secondary bacterial infection. Most of these effects are similar to those experienced by people who suffered from (SARS) during the 2003 epidemic. (Much more detail on the reproduction of the covid-

19 virus in human cells can be found on for example:

https://www.sciencedirect.com/science/article/pii/S1684118220300827.)

Chapter 3 – Stress Theory



To stop the spread of viruses, different methods can be used. Most of those used with the present day covid-19 virus have to do with getting people to change their behavior. Creating such changes is often not simple, especially since different individuals under stress can react very differently. Most, if not all, people experience some stress when threatened with severe pain or death. To understand how and why people behave under stress, it is necessary to have some understanding of stress itself and how it influences the way people think and react to different levels of stress.

Some of you may think that this “theory” is rather heavy. However, it is important to understand a bit of the background to understand why different approaches will have different results and therefore a little bit of theory is given here. A somewhat larger more detailed discussion is given near the end of this book in ***Alternate Chapter 3 – More Stress and Coping Theory -*** and it is expected that many readers may find it useful to read that chapter (and skip the present chapter) before going on to Chapter 4 – How Viruses spread.

There has been a lot of work on reactions to stress situations. There are stage theories and attribution theories, as well as theories of locus of control, cognitive orientation, cognitive dissonance and decision-making that I discuss briefly in my thesis (Kaill, 1999, p. 9-20).

Many of you will have heard of Hans Selye's stage theory although perhaps not by that name. Already in 1925 Selye became interested in the *"syndrome of just being sick"*, as opposed to the particular symptoms of particular diseases. Eleven years later, he published his first paper on the *"syndrome of stress"*. General reactions to stress are always the same, and his thesis was that:

> ***the organism responds in a stereotyped manner to a variety of widely different agents, such as infections, intoxications, trauma, nervous strain, heat, cold, muscular fatigue, and X-irradiation. (1979, p. 12)***

This response he called *"alarm reaction"* which he developed into the General Adaptation Syndrome (G.A.S.):

(a) ***Shock phase***
(b) ***Countershock phase,***
(c) ***Stage of resistance.***
(d) ***Stage of exhaustion.***
(1979, p. 17)

The shock and countershock phases involve a number of physiological reactions where we could say the body goes into high preparedness which is often called the ***"fight or flight"*** level. Here, pulse and breathing increase, as do levels of cortisol, testosterone, and dopamine for example.

These basic stages are more or less accepted by most scientists working with stress theory with the provision that the individual can break into the system at different stages. How one does this can be called coping. With his books, **When prophecy fails (1956),** and **A theory of cognitive dissonance (1957),** Festinger's theory of cognitive dissonance raised questions concerning how individuals change their thinking to correspond with incongruent events around them. A great deal of this changing is at a subconscious level.

Coping processes involve *interaction* between the environment and the individual.

Inglehart (1991) advances what she calls **"The generalized principle of cognitive consistency"** where she writes that in response to ***critical life events*** individuals have two main possible reactions, namely, ***avoidance* or *tension reduction***. Which of these reactions the individual chooses is based on ***the principle of least effort.*** This is very important when we later consider how individuals react to stress caused directly by the Covid-19 virus (it's sickness and possible death) and the stress caused by messages/instructions from the society's authorities. Most of us probably consider stress caused by fear of the virus as most important, but I propose that recommendations from authorities may cause at least as much, if not more stress, especially if they are in conflict with one's normal life and with what one's friends think.

Probably cognition is most often identified with conscious thinking. It is, however, often the case that activities going on in our brains, of which we are not conscious, give rise to much, if not most, of our outward behavior.

Thus, much of our coping occurs at a subconscious level, the results of which can result in more or less automatic behavior.

In this book, I define psychological stress as ***the relationship (feeling) that exists when the environment is experienced as demanding a response****.* This experiencing may occur at either the conscious or unconscious level. For example, a stress relationship exists, when, while waiting at the start of a race, a participant’s pulse increases, *even if* the participant is not consciously aware either of this increase in pulse nor of what to an observer may appear to be extensive nervous behavior. According to this definition a stress relationship also exists when one sits at a table with food on one’s plate and experiences a demand of lifting the peas or potatoes to their mouth. This demand may be at the unconscious or conscious level and of course the stress level will normally be very low. For many of us the level of stress when lifting peas to our mouth will increase dramatically, if we only have chop-sticks to use.

I propose that a common cause of stress in the present Covid-19 situation in Sweden may be reconciling the following recommendations: keeping a physical distance from others, passing people in the food store, your children going to school, your 18-year-old having group training with others including their 65-year-old coaches, while seeing that most other countries are enforcing many other restrictions and seeing many other people on TV with face masks. These things I will discuss further in ***Chapter 14 - Analysis of Swedish Strategy***.

In this book I maintain that a basic anthropological condition of the human is this basic stress situation, a situation which is experienced as including some type, if ever so slight, of demand for action. It is then the acting (reacting) in each situation that we define as coping. ***How we react physically, mentally, and emotionally are all intertwined in a complex of being human,*** which is often more complex than the reactions of other animals because of the human's ability to consciously reflect.

How we experience stress and how much stress we experience followed by our coping with it is determined in large by ***how important the situation is to us***, both at a conscious and subconscious level. How important something is relates directly to its meaning in our social life for it is only within a social context that this importance or meaning can exist for the individual. As Berger & Luckmann (1995) write:

> ***Meaning is nothing but a complex form of consciousness: it does not exist independently. … Meaning is consciousness of the fact that a relationship exists between experiences. (p. 11)***

Thus, how we cope with stressful situations is very much influenced by our close friends, the other groups we associate with and our national culture. Much of this experience is incorporated at a subconscious level and begins when we are very young.

As the child learns its place within a social stock of meaning it develops a personal identity. The initial process is termed primary socialization and lays the basis for personal identity, which is later built upon through secondary socialization. This secondary socialization helps the individual fit into his social roles, in particular in the life-world of work. Thus *"**structures of society become***

structures of consciousness" (p. 42). During this socialization, individuals learn ways to cope that are appropriate for their position in their social groups. This is of special interest in ***Chapter 12 – Swedish Culture***.

No matter how one twists and turns the issue, the question of successful or unsuccessful coping (or adaptation) becomes almost always (if not always) a normative question. ***Coping is a continuous process***, a continuous reaction to a basic human anthropological condition of experiencing situations as demanding some type of response.

For most of human history, people grew up in a relatively small integrated society, where work, play, and beliefs were similar for everyone within one's group. At the present time, the individual grows up and lives in a world where the *"**official world view**"* consists of only a few superordinate values (e.g., in the "western world" democracy, freedom) concerning coexistence and the individual must therefore look elsewhere for biographical meaning.

In modern pluralistic society, one must look to smaller communities of life and communities of meaning if one is to know who one is and how to act. To this end *"intermediary institutions"* (such as schools), which help in the process of stabilization of meaning and self-identity, have grown up.

Benita Luckmann (1970) in ***The small life-worlds of modern man*"** writes of "separate institutional spheres" which are "***small, comprehensible and knowable***" (p. 589). She singles out "three small worlds," namely those of ***family, ecological community, and work,*** which are important to modern day individuals. (p. 591)

Influenced by parents, school, TV, etc. the individual moves between different life-worlds. However, In order for the individual to build a life biography, he or she ***usually focuses upon or singles out a central world.***

The area of interest in my study of sudden death in orienteering was not difficult to ascertain. It is not difficult to understand how a ***sport can become a central life-world for the elite athlete*** who plans a large proportion of his/life around training and competing, but the area of sport is much more complex than this. It contains not only the “problems” and culture of elite athletes, and the potential elite, but also purely recreational “athletes”. In Sweden, orienteering was clearly a primary life-world for thousands of people. Therefore, in my study of prime interest was how the recommendations from SOFT created stress in the orienteers’ life-world of sport/orienteering.

Coping with this stress was done to some extent by ***not following SOFT’s recommendations***, but ***following*** the norms they had learned in their ***central life-world of orienteering.***

When we start to examine how people will react to the stress of Covid-19, both stress caused by fear of sickness and death, as well as the stress caused by recommendations to change your way of life, are of major interest. Of course, in most modern societies there are an immense number of central life-worlds that people may have. In many cases the norms in the individual’s central life-world with be in strong conflict with recommendations and will thus have an effect on how the recommendations are interpreted.

Chapter 4 – How viruses spread

Uhoh.. I Wonder where they'll go

There has of course been a lot of research into the spread of virus and other sicknesses. This is perhaps the central topic in Epidemiology which can be defined as “the study of the distribution and determinants of disease frequency” (Rothman, 2012, p1). There scientists have developed a number of equations/algorithms to estimate different parameters and in particular to predict the future spread of a virus. Because the whole area is very complex with complex data and often ***a lack of data***, there are a lot of different algorithms that do not agree with one another. In other words, experts often do not agree, although there are ***some things that are generally accepted***, such as the following.

The rate or speed of transmission of viral infections depends on many factors including population density, the number of susceptible individuals, (i.e. those not immune), the quality of health care and the weather.

A basic diagram of spread can look like one of the following. The first one (Figure 6a) shows each person infecting one, and only one, other person (Ro=1, Basic reproduction number) and the second shows each person infecting three others (Ro=3). If we put in the time for infection from one person to another at one day, then if the infection from one person to the next is one (ie Ro=1), after a 30-day month only 30 will be infected.

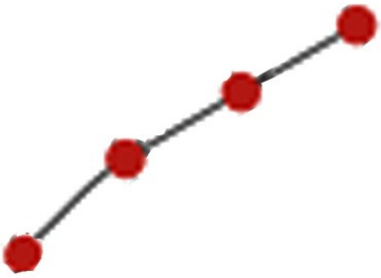
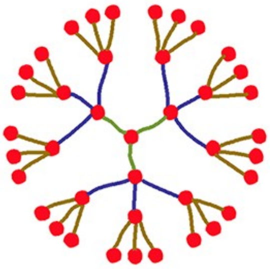


Figure 6a



6b

In the second diagram (6b), also with the time period of one day, where each person infects three others, after three days the infections would increase from one to 40 as seen in the diagram. In another 3 days the infections would be 1,093 and in a 30-day month the number infected will be 308,836,698,141,973 except of course there aren’t that many people to be infected. Even if each person only infected 2 would that number be 2,147,483,647 after 30 days. Even if each person only infects 1.5 others the total will be 575,251.2 after 30 days. It is thus very important to block the spread as early as possible. Of course, ***in practice the spread is not smooth over time***, but probably looks more like the following diagram.

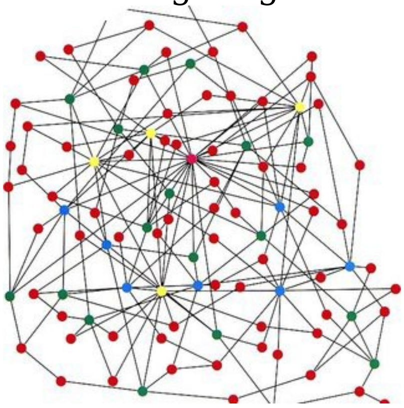


Diagram 7

Epidemiology involves often projecting ways that could be used to break the chain of a virus infection in populations using various control measures. These are based on what knowledge exists as to how the virus is transmitted, the source or sources, of the outbreak and what attributes of the virus are known. If possible, a vaccine may be used, however, such are usually not available with a new virus. Sanitation and disinfection can be effective and in addition infected people can be isolated from the rest of the community, and those that have been exposed to the virus can be placed in quarantine.

Of course, if one is to vaccinate or confine people who can spread the virus, one must know who they are. Unfortunately, most virus infections can be transferred to others before individuals infected have shown any symptoms. This incubation period before symptoms appear can vary from a few days to a few weeks. Usually after the incubation period there is a period when an infected individual or animal is contagious and can infect another person or animal.

As stated above, people studying epidemiology use equations/algorithms to predict spread. Although these can be more or less complex, even the simplest have a major problem, since even the simplest ones call for someone to introduce estimated values for some of the variables. Some of these values, especially with a new infection are by necessity guesses, educated guesses, but still guesses. A Canadian Covid-19 19-page ***Technical briefing April 9, 2020***, entitled ***COVID-19 in Canada: Using data and***

modelling to inform public health action says amongst other things the following:

> ***Canada's approach to modelling***
>
> - ***Models cannot predict what will happen, but rather can help us understand what might happen to ensure we can plan for worst cases and drive public health action to achieve the best possible outcome***
> - ***Models can support decisions on public health measures and help the health care sector plan for the number of expected COVID-19 patients***
>
> ***Reminder: Canada is using two modelling approaches:***
>
> ***Forecasting models use data to estimate how many new cases we might expect to see in the coming week***
>
> ***Dynamic models show how the epidemic might unfold over the coming months, using knowledge of how the virus behaves and of the potential impact of public health measures.***

> ***Important to recognize that models have inherent limitations (e.g., simulate controlled scenarios, not real world). (p. 10)***

Although how to use this modelling is not important for most people to know, we will give a couple of examples here:

We start with a “simple” equation, described by Rhett Allain, where Ni is the i’th day and Ni+1 is the following day.

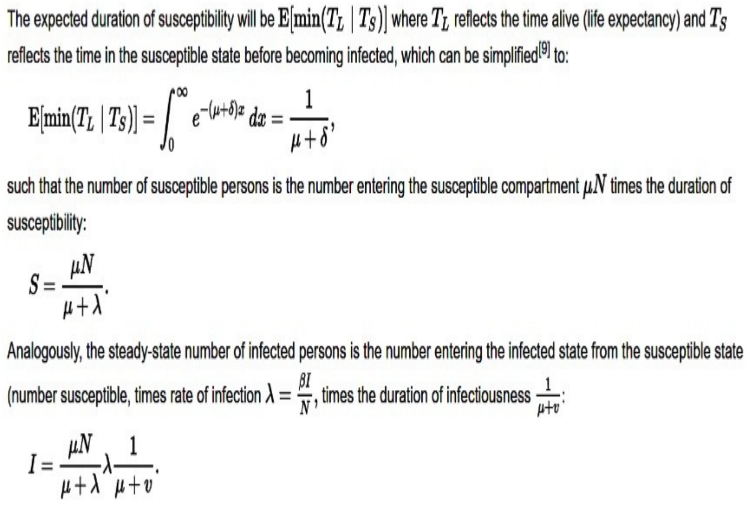
$$N_{i+1} = N_i + aN_i\Delta t$$

> ***….with one infected person on day zero (N_0 = 1).***
> ***For 30 days the risk to others seems small, and nobody follows the CDC advice to stay home. Then suddenly, with no change in the infection rate, it explodes. The situation is fine until it’s not, and then it’s too late.”***
> (https://www.wired.com/story/how-fast-does-a-virus-spread/ 20200902)

A more usual type of algorithm is the SIRIII equation which you can find in the English

Wikipedia and it is somewhat more complicated.

With this type of equation, many values will be, at best, educated guesses and in addition many will be changing constantly. It is, therefore, not surprising that different experts come with different predictions. Of course, in the context of the present Covid-19 virus, all the experts seem to have agreed from very early on, that the number of infections would be very large.



The expected duration of susceptibility will be $\mathrm{E}[\min(T_L \mid T_S)]$ where T_L reflects the time alive (life expectancy) and T_S reflects the time in the susceptible state before becoming infected, which can be simplified[9] to:

$$\mathrm{E}[\min(T_L \mid T_S)] = \int_0^\infty e^{-(\mu+\delta)x}\,dx = \frac{1}{\mu+\delta},$$

such that the number of susceptible persons is the number entering the susceptible compartment μN times the duration of susceptibility:

$$S = \frac{\mu N}{\mu+\lambda}.$$

Analogously, the steady-state number of infected persons is the number entering the infected state from the susceptible state (number susceptible, times rate of infection $\lambda = \frac{\beta I}{N}$, times the duration of infectiousness $\frac{1}{\mu+v}$:

$$I = \frac{\mu N}{\mu+\lambda}\lambda\frac{1}{\mu+v}.$$

(From the English Wikipedia 20200607)

Another basic problem with using Ro is that it has no specific time unit and if an infected person infects one other in one hour or in one week makes a huge difference in how one might combat the spread. In addition, a disease's R_0 value actually ***only applies when everyone in a population is completely vulnerable to the disease***. This means:

- no one has been vaccinated
- no one has had the disease before
- there's no way to control the spread of the disease.

These conditions are very rarely, if ever, fulfilled. In addition, it should be noted that often when people think they are talking about Ro they are actually talking about Re which is the effective reproduction number. Also sometimes used is Rt which is the average number of new infections caused by a single infected individual at time t in a partially susceptible population. These are some of the reasons why it is not surprising if you don't understand many of the statements you hear about some R.

One of the factors mentioned above but not so often noted is population density, which of course can make a major difference in rate of spread.

However, when it comes to density when dealing with Covid-19, it would appear that although ***density calculated in people per square kilometer*** does make a difference, that ***individuals per square meter is a larger problem***, i.e, the number of people per housing unit. It would also seem that close contact over an extended period of time vastly increases the spread. This probably gives Italy a much more difficult situation than in Sweden for example.

Close contact on subways is cited as a major risk, but Seoul with 7,000,000 riders per day has been quite successful fighting Covid-19. A contrast is a church in Arkansas which had regular services in March, where of the 92 worshipers 35 were infected and these infected 26 more outside the church. Of these 61 infected, 3 died.

Of course, the rate of spread will go down in a particular area after a lot of people there have been infected, since there will be fewer people to be infected. The term herd immunity is often used to indicate a level of infection when spreading is decreased to a very low level or stopped. The level of infection will not always be a clear indicator of herd immunity, however, as vaccines can also slow down rate of infection, and in some cases people can be re-infected, since some infections do not produce antibodies that make the individual immune.

In practice, rates of spread will often be irregular and viruses will often infect people in clusters which we will discuss more further down when we discuss different strategies.

In summary, theoretically the spread of a virus such as Covid-19 could be constant and relatively easy to predict, but Covid-19 is not constant and easy to predict. Viruses are spread by humans often in clusters, in other words one person comes into a group and spreads to a lot of people within the group.

Covid-19 can be spread in droplets or aerosols and anyone within 2 meters or so can breathe into their lungs and thus get infected. This virus can survive up to 3 hours in the air. A Chinese study indicates that can be spread by central air conditioners in indoor recirculation mode. ***(Community Outbreak***

Investigation of SARS-CoV-2 Transmission Among Bus Riders in Eastern China in ***JAMA Internal Medicine Published online September 1, 2020)***

This virus can also survive 2-5 days on some surfaces which is a reason that it is often recommended to disinfect all counters, knobs and other such surfaces several times a day. Fecal-oral transmission is not so likely unless someone with the virus after using the bathroom does not wash their hands.

Other problems in predicting spreading include cluster spreading and differential spreading by different ages or some unknown factor. Further down when we discuss Covid-19 in particular, the finding of one study that indicates that 80 % of infected people do not spread the virus, but the other 20 % are very proficient spreaders.

Having said all this, almost everything written is actually guesswork. Despite everything the scientists write they can only make educated guesses. One can take for example the present Covid-19 virus.

As pointed out earlier, a Covid-19 virus is extremely small and can only be “seen” under an electron microscope and therefore there is no way to measure how many enter a human. If only a single virus enters a human, will she/he be infected? Or is it so that the human immune system can easily dispose of a single virus? Can it be so that it is only after a certain number of virus have entered the system that symptoms start to appear? Can it be that different quantities give more symptoms or more severe symptoms? Can this explain why health care workers that become infected after they have been exposed to a large number of virus, often have severe symptoms?

While it may be possible to measure how many virus come through a mask with a certain material, there are many variables that probably make a difference, such as how hard is the individual breathing, how warm is the air, how moist is the air?

Despite all the uncertainty in the behaviour of this Covid-19 virus it is quite certain that there are two basic ways to stop people from spreading a virus:

1) Use a vaccine that stops the virus from infecting people that are so far uninfected.

2) Stop people who have an infection from coming in contact with anyone who does not have the infection.

At the present time no such vaccine (as in 1) exists. Therefore, there is only 2) that can be used. Much of the rest of this book is concerned with what has been attempted, results of attempts, and suggestions of what might work best and why.

Chapter 5 – Orienteering Deaths

In Chapter 3, we discussed some theories of stress and how individuals cope with stress. The sudden appearance of an apparent virus threat which could end with death to individuals engaged in the sport of orienteering presented an opportunity for a longitudinal study of a real-life situation as opposed to imaginary situations.

In the years around 1960, Swedish orienteering experienced an epidemic when jaundice spread among Swedish orienteers causing hundreds to be sick and many to die. Jaundice which is actually a symptom of Hepatitus B, was thought to be spread by individuals coming in contact with the blood of another orienteer on a branch in the forest where he/she had been scratched, The Swedish Federation (SOFT), suspended competition for 6 months in 1962 and introduced a new rule of competition clothing to cover legs and arms. This clothing rule appeared to stop the spread.

Then during the years 1978-1992, a proportionately large number of young top-trained elite orienteers died in mysterious circumstances. During just 24 months, (November, 1990 to November, 1992), six elite orienteers died. The last death in October 1992, was the trigger for a series of decisions concerning competition and training made by the Swedish Orienteering Federation (SOFT) (1993:1). This death received a lot of mass media coverage largely because the initial information, concerning the death of a 26-year-old athlete, stated that he was perfectly healthy and just out for an easy run when he suddenly dropped dead.

Probably partly because the history of Hepatitus B was not all that long ago, these new deaths were sufficient in number that a competition stop (suspension of all elite competitions until June 15) and recommendations to either stop training completely or make a substantial reduction in training were put into action by the national orienteering federation (SOFT) in late January, 1993.

My research involved many questions concerning SOFT's recommendations and restrictions on training and competing:

- Will everyone included by the recommendations follow them?

- What factors will be important?

- Will athletes risk death by training rather than reduce their chances of making the team for the world championships in the fall?

- How will athletes not in the danger zone be affected?

- Will athletes in the danger zone define the danger as a non-risk?

- Will athletes be more careful about training when their health is not the best?

This longitudinal study to explore the reactions of orienteers to these deaths and the decisions of the national orienteering organization began in January, 1993. The basic structure of the project involved a sample of 406 individuals who orienteered regularly and a series of questionnaires distributed by mail.

Although the general aim was simply to examine reactions over time, some specific tentative hypotheses were made in line with Festinger's idea that the ***"magnitude of dissonance increases as the importance or value of the element increases,"*** (1957) and

Inglehart's ideas (1991) of ***avoidance*** and ***principle of least effort***. The hypotheses were thus,

- The more central the orienteering life-world is to the individual the more negative stress will be felt
- Individuals will interpret the situation in ways which appear least likely to increase dissonance.
- Those for whom orienteering is most important will view change in their training/competing as relatively unimportant and will therefore change as little as possible.

The initial sample of 406 was doubly stratified into three major groups. The first group (ES) selected consisted of 128 top ranked elite orienteers. A second group (RS) came from the 3000 orienteers on the national ranking lists. The third group (OS) were more recreational orienteers.

Obviously, most of the sample considered the problem as important since the response rate was very high amongst all groups.

Table 1. Response rates for each of the questionnaires according to subsamples. Percent.*

	ES	RS	OS	Total
N=	(128)	(128)	(150)	(406)
Questionnaire 1	95	87	83	88
Questionnaire 2	92	81	78	83
Questionnaire 3	91	78	71	80
Questionnaire 4	84	78	73	78

**All percentages are calculated on the numbers in the original sample even though questionnaires 2, 3 and 4 were not sent to those who did not answer the first questionnaire. This means that the actual percentage of returns of questionnaires 2, 3, and 4 are higher than indicated in this table.*

The assumption was that even though most would respect the national association, many would not follow the recommendations. Therefore, questions were formed to encourage respondents to answer honestly, while not directly questioning SOFT’s recommendations. Therefore, they were asked in each questionnaire about the amount they trained.

As you may recall the central recommendation was to

“either stop all training or to substantially reduce training.”

The orienteers were asked in each of the four questionnaires how much they trained at the time of the questionnaire. The following table shows replies to a question about training shortly after the recommendations above were made. As can be seen, among the Elite who followed the recommendations more than the other groups, more than a third (38%) continued to train as earlier or more and another 20% only reduced training slightly. Only 6% stopped completely and 28% trained much less. In the recreational group 78 % continued to train as earlier or trained more.

Table 2. Training after recommendations from SOFT in January: Percent.

	ES	RS	OS
Continue to not train	7	9	5
Stopped completely	6	4	0
Trained much less	28	21	3
Trained a little less	20	23	13
Same as before	34	39	75
Increased	4	1	3
Sick	1	4	1

N=	120	105	113

From this we can make the assumption that most orienteers although they had respect for the national authorities, still made their own decisions as to training, and the recreational orienteers did not think the recommendations actually applied to them. This last result in particular, could be kept in mind when looking at who and how people follow the recommendations regarding Covid-19.

That most were somewhat concerned about the problem and experienced some general stress can be seen from the general anxiety score (Table 4a). It would appear from Table 4b, that individuals were more concerned about their friends than about themselves. This we will refer to later when contemplating methods to get people to change their behaviour for Covid-19.

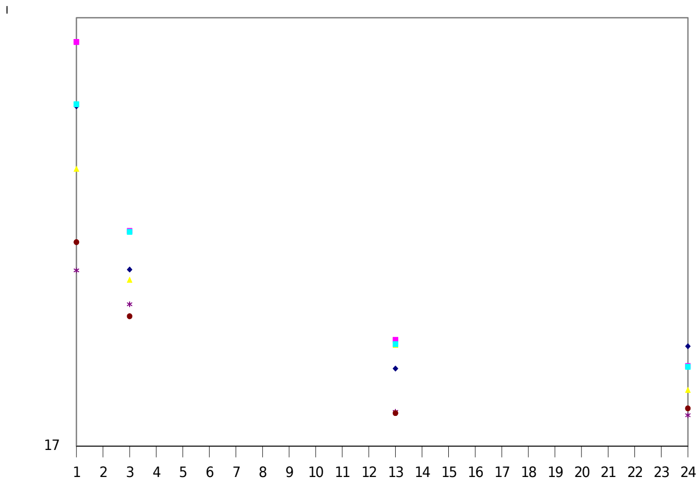
Table 4a. Anxiety score at time 1 Table 4b. Worry about friends
Percent.
Percent.

Anxiety	Women	Men
High	31	27
	29	26

Anxiety	Women	Men
A lot	11	3
Rather much	29	19

Low	40	47	Somewhat	42	45
			Not at all	18	33
N=	123	211	N=	132	220

Of interest is also the change in anxiety over time. In the figure below it can be seen that after 2-3 months the anxiety levels had declined very significantly. This was then also shown in training patterns as everyone was back to relatively normal training levels after 2 years. This can be of interest also when trying to decide which recommendations to give and when to give them.



As expected, the orienteering life-world was so important to orienteers that most trained much as usual and they were not very concerned about training correctly. This was expected since the culture of orienteering ranks independence very high (orienteering on one’s own out in the forest) while at the same time places a high value on group training once or twice a week with all ages involved.

Table 5. Worried about training correctly related to subsamples. Percent.

How worried	ES	RS	OS
Not at all	56	56	78
Somewhat	34	30	17
Rather Much	9	11	4
A lot	1	3	1
N=	121	106	123

Chapter 6 – Side Effect

Much easier to sell an answer than a question. Thinking is often not so comfortable.

Chapter 4 on the spread of virus, ended saying that the only way to stop the virus from being spread is stop people that are infected from coming in contact with others, in other words some time of isolation or quarantine. However, all types of containment have a number of possible side-effects.

Restricting people from work can cause economic problems of various sorts, such as unemployment and possibly a problem with food production and/or food distribution. If jobs are lost and/or people isolated, this can cause various health problems. People can become depressed and/or violent. This can result in mistreatment of children and/or living partners.

In addition, treatment of people needing operations or other medical treatment might not be carried out because resources which might have been used for these problems have been redirected to Covid. Service disruptions for HIV infected people could result in multiple deaths. WHO and UNAIDS did some modelling on interruptions to health services and drug supplies and saw that the worst scenario in the next year could lead to 500,000 extra deaths from AIDs-related illnesses in sub-Saharan Africa. (In Sweden many sick people, who may have needed treatment and/or operations, avoided going to the hospital, because they were afraid to be infected).

If schools and universities are closed, there is the question of how much learning experience will be lost, even if electronic communication comes into greater use.

WHO published an analysis concerning schools and reopening after closure, where they obviously assumed that schools would be closed to help confine the pandemic.

> ***Deciding to close, partially close or reopen schools should be guided by a risk-based approach to maximize the educational and health benefit for students, teachers, staff, and the wider community, and help prevent a new outbreak of COVID-19 in the community.***
>
> https://www.who.int/publications/i/item/considerations-for-school-related-public-health-measures-in-the-context-of-covid-19

Experience from earlier economic problems and crashes has shown that unemployment, especially extended unemployment, can lead to not only economic problems, and a shortage of food, but also to depression in some individuals that sometimes leads to death.

In 2020 on May 13 the UN presented a **Policy Brief on COVID-19 and the need for action on mental health.**

> ***An increase in symptoms of depression and anxiety are already being reported in a number of countries in relation to the COVID-19 pandemic. A study in Ethiopia in April 2020 reported a 3-fold increase in the prevalence of symptoms of depression compared to estimates from before the epidemic.***
>
> ***Frontline health-care workers, women, children, adolescents, older persons and people with pre-existing mental health conditions are all at particular risk. A rise in alcohol consumption is another area of concern for mental health experts.***

> ***The increase in people in need of mental health or psychosocial support has been compounded by the interruption to mental health services in many countries.***
>
> ***In concrete terms, it is critical that people living with mental health conditions have continued access to treatment. Many countries have changed their approach to the provision of this support in ways that are showing signs of success.***
>
> ***Support for community actions that strengthen social cohesion and reduce loneliness, particularly for the most vulnerable, must also continue.***
>
> https://unsdg.un.org/sites/default/files/2020-05/UN-Policy-Brief-COVID-19-and-mental-health.pdf

When considering the various factors and what strategy to choose, it can be important to consider possible political reactions as well as which leaders should present the strategy. Here it is not only Trump-like reactions to consider, but to some extent all strategies that countries use can have repercussions on the political leadership. It can be assumed that all political leaders, have possible influence on future elections in mind at least on the subconscious level.

These considerations on various side effects that strategies can have bring us to our next two chapters where we first take a brief look in Chapter 7 on some previous epidemics and then in Chapter 8 at some of the strategies that have and are being used in the present Pandemic, with some emphasis on those that seem to be effective.

Chapter 7 – Earlier Epidemics

During epidemics you should not surround yourself with positive people.

There have been many epidemics during the last millennium. Usually they were relatively local, before travel became more widespread. Having said that, it can be noted that the Bubonic plague (1346-1353) was probably the most deadly, as it killed between 75 and 200 million people at a time when there were far fewer people in the world than today.

The first flu pandemic that we know of occurred in 1889-1890. Probably beginning in Petersburg, it circled the world (without airplanes) killing a million people. The Spanish flu (1918-1920), that probably did not come from Spain, infected approximately 500 million people (about a third of the world's population) and probably more than 20 million lives were lost.

The AIDS pandemic caused by the virus HIV was probably first transferred from a chimpanzee to a human in the 1920s. Since AIDS became known in 1981, it has claimed approximately 35 million lives. It is estimated that about 40 million people, most of them in Africa, now live with the HIV virus under some type of control.

More recently the swine flu pandemic of 2009 spread from Mexico to the rest of the world infecting approximately 1,400 million people and killing a few hundred thousand. Unusual for this flu was that 80% of those who died were younger than 65 years of age.

The first known cases of Ebola were in 1976, but was not widely known until the epidemic of 2014-2016 when about 28,600 known cases occurred of which 11,325 died. Although a few Ebola cases were found in a number of countries around the world, most cases were in Liberia, Guinea and Sierra Leone. Ebola was considered under control until a new outbreak in 2018 which now seems to be under control. There is, however, still no cure or vaccine for Ebola and the death rate has been very high.

Moving over to the first corona virus that had a major affect on humans, we have the severe acute respiratory syndrome (SARS-CoV-1) which began in Asia in 2002. Its spread was somewhat restricted although more than 8,000 individuals were infected and about 10% of these died. Most outbreaks were in hospitals and 20% of the cases were health care workers in hospitals.

The Middle East respiratory syndrome coronavirus (MERS-CoV) was identified in 2012. Fortunately, this virus is not very contagious, since it is very dangerous. As of December, 2019, 2,468 people had been confirmed infected and of these 851 (***34.5%)*** had died.

It can be noted that after the Ebola epidemic that a number of people came out with warnings and predictions about the future. Perhaps the best known is Bill Gates who gave a TED-talk in 2015 and wrote an article in a medical journal where he also gave a list of preparations that countries should make if they wanted to be able cope with future infections. He described vast improvements that needed to be made in health systems and surveillance. He described both how human resources must be increased in number and in knowledge as well as how physical services for surveillance and testing needed to be vastly improved. He points out also that this is not only a project for individual countries, but that international cooperation and special help to such countries that for economic reasons, among others, are unable to prepare on their own.

It appears that very few countries took these warnings seriously. Some countries, such as the USA, even reduced some of their facilities.

Looking in the following chapter on early strategies and later the chapter on Japan, it would seem, however, that a few countries were prepared for the SARS-CoV-2 virus.

Chapter 8 –The First Strategies

Number 16 - you go left, 18 head for the lungs,

12 you go to the toes.
You others just create confusion.

As mentioned at the end of ***Chapter 4 – How Viruses spread –*** without a vaccine the only way to completely stop spreading is by isolating anyone that has the virus from everyone else. This is of course not very easy, since to do this you must first identify everyone that is infected. This can, of course, be possible if only very few people are infected.

Of course, the virus will stop spreading after everyone has been infected, but this is seldom considered as a reasonable objective. There can be some talk about Herd immunity, which means that a sufficient number of a particular population have been infected and become immune that the rate of infection becomes very low or disappears because the chain of infection is broken. Depending on what infection one is discussing, the cost in lives and suffering can be very great before such immunity is reached.

In the following is described how some countries did try to control spreading and keep infections and sickness as low as possible.

Before, however, one can discuss whether a strategy is good or successful, one needs to define the goal of the strategy. Many people will automatically assume that the goal will be, as implied in the previous paragraph, to stop the spread of the virus and/or reduce the number of deaths as much as possible, although even these are not the same goal. There are, in addition, a number of goals that strategies can be aimed at, that do not have the explicit goal of getting rid of the virus nor quickly containing it. One other type of goal can have a major economical aspect. Another specific goal that is often stated is flattening the curve. In this book we will look especially how this last goal was used in Sweden.

On January 30, 2020, the World Health Organization declared the spread of Covid-19 a Public health emergency with 7,836 confirmed cases and 170 deaths. WHO’s message was:

> ***Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus.***
> ***Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.***

But WHO issued the above message long after a number of countries had already taken steps to inhibit the spread of the virus, because of problems that started in late December in China.

In the middle of February, 2020 China’s Southern Medical University in Guangzhou published a ten-page report (Deng & Peng, ***Characteristics of and Public Health Responses to the Coronavirus Disease Outbreak in China***) about this new virus, which is spread by direct contact and respiratory droplets. Here it was pointed out that the virus’ incubation time was 1-14 days and that even asymptomatic individuals can spread the infection. Here they also noted that of the people who died, most had some other problem: hypertension 54%, diabetes 42%, coronary heart disease 19%, chronic bronchitis 9%, cerebral infarction 15% and Parkinson’s disease 9%. For prevention they restricted all kinds of congregation, ensured supply of living resources, masks, disinfections, and other protective articles.

In summary they wrote:

> ***Therefore, early detection, isolation and treatment of patients are the key measures to control the source of infection and reduce the infection rate. (p. 8)***

One country often referred to with respect to early containment is South Korea with a population density of 503/km^2. Their first case was announced on January 20. Their confirmed cases increased by 20 by February 19 and by 58 the following day giving a total of 346 confirmed cases on February 21. Various measures were implemented and beginning on February 4, foreigners from Hubei Province in

China were denied entry. As of June 28, 2020, South Korea had only 6 deaths per million.

Even more effective, however, were Taiwan and Hong Kong. This may be partially because both countries were heavily hit by the SARS outbreak in 2002-2003 and were therefore prepared for an outbreak of another epidemic.

Taiwan with a population of 23 million and a population density of 673 people km^2 is very close to China and was expected by many to be hard hit. They had their first confirmed infection on January 21 and their first death on February 16. Their death toll as of June 6, 2020 was 0,3 per million.

But what was Taiwan’s strategy? When one first reads or hears their strategy it sounds much like the Swedish experiment which we shall describe in more detail in ***Chapter 11***. Taiwan had no lockdown, partially because they emphasized information transparency with daily press conferences and individual responsibility to follow the guidelines. What did they do in practice? Here, we will just name a couple of practices they used and later in ***Chapter 16 – Future Strategies,*** we will give more details of this strategy. Here we will note that they had very strict contact tracing (logging 15-20 people for each positive test) and strict quarantines with pay for individuals following quarantine regulations and severe fines for violations of these regulations.

Hong Kong with a population a little smaller than Sweden (7 million), but with a population density of 7,140 people per km^2 had their first confirmed case on January 23 and first death on February 4. Their death toll as of June 28, 2020, was 0.9 per million. Much like Taiwan they had extensive contact tracing, isolation and travel restrictions

On March 11, 2020 WHO declared Covid-19 a Pandemic with 124,101 confirmed cases and 4,583 deaths. This was also the date of the first death in Sweden. Earlier on March 6 the first Swedish individual was put into intensive care because of the virus. By March 11, the total number in such care was 6.

Swedish authorities have often compared Sweden to Italy which had their first confirmed case on January 31 with their first death on February 3 and a death toll of 529 per million on May 19. However, Italy with its population density of 200 people/km^2 and often multi generations in the same household differs too much from Sweden to make a comparison of retainment strategy for Covid-19 interesting. Therefore, in the following, I will do most comparisons with Sweden’s 3 nearest neighbours where population density, living arrangements and weather are somewhat similar to Sweden’s.

Finland with a population density of 16 per km^2 had their first confirmed case on January 29 and their second case on February 26. Finland through detailed tracking was able to keep the spread of the virus very low the first weeks, but still by March 16 they had 272 cases and their first death on March 21. On March 16 Finland passed an Emergency bill and closed most public places, and limited groups to a total of 10. On March 21, they started to prohibit all travel in and out of the area around their capital Helsinki. This was enforced by both police and the military. On June 28 Finland’s average deaths were 59 per million.

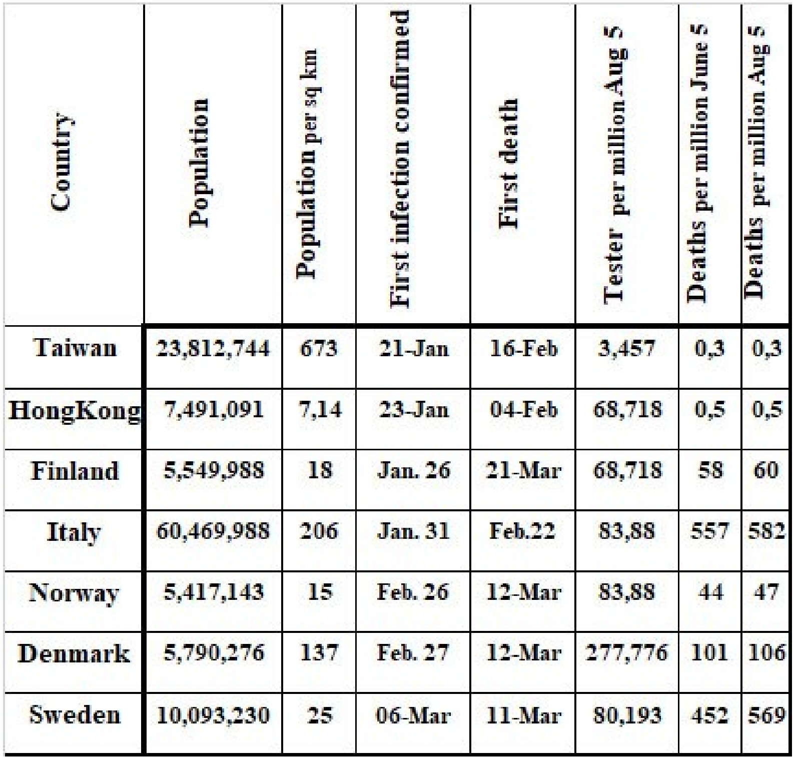
Denmark with a population density of 135 per km^2 had their first confirmed case February 27. On April 3 they had 466 new cases which was their highest daily number.

On June 28 their average deaths were 104 per million. Denmark was early with a relatively hard lockdown, but prior to its implementation the government had intensive negotiations with major groups such as labour unions and employer’s associations in an attempt to gain widespread support for the lockdown.

Norway with a population density of 14/km^2 had their first confirmed case of the virus on February 26 and their first death on March 12. The same day a national lockdown began and for 2 weeks schools, preschools, hair salons, etc. were all closed with restrictions on restaurants. All gatherings for sports or culture were banned. Their restrictions being in general much the same as Denmark. As of June 28, their average deaths were 46 per million.

A non-Scandinavian country that has been compared to Sweden is Uruguay which in some articles is said to have had the same strategy as Sweden with no “lockdown”. However compared to Sweden´s death toll of 523, Uruguay has a very low death toll of 7 per million as of August 5. As might be expected while the official overall political strategy in Uruguay and Sweden might have been theoretically similar, they had very different practices. Uruguay has put masks on everyone while Swedish authorities have said masks may have a negative effect on the general public. Uruguay moved very quickly in March not only with social distancing but also with widespread testing and tracing. The government announced a two-week suspension of classes at public and private schools on Saturday, 14 March. Schools were to remain open to provide meals to students, but without classes. The suspension of classes was later extended to 13 April, then extended indefinitely. Shopping centers were closed March 17.

A major contention in this this book is that when comparing different strategies, there are a myriad of factors that need to be considered if a balanced decision to be made. In ***Chapter 6***, a number of side effects were briefly considered. In the following two chapters is discussed how different actions and effects might be balanced.



Country	Population	Population per sq km	First infection confirmed	First death	Tester per million Aug 5	Deaths per million June 5	Deaths per million Aug 5
Taiwan	23,812,744	673	21-Jan	16-Feb	3,457	0,3	0,3
HongKong	7,491,091	7,14	23-Jan	04-Feb	68,718	0,5	0,5
Finland	5,549,988	18	Jan. 26	21-Mar	68,718	58	60
Italy	60,469,988	206	Jan. 31	Feb.22	83,88	557	582
Norway	5,417,143	15	Feb. 26	12-Mar	83,88	44	47
Denmark	5,790,276	137	Feb. 27	12-Mar	277,776	101	106
Sweden	10,093,230	25	06-Mar	11-Mar	80,193	452	569

Statistics from July, 2020

Chapter 9 – Choosing a Strategy

Roundabouts...
Right, Roundabouts. Should we give advice about roundabouts?
No Canadians are smart. A few more accidents and they'll figure it out
Ok, If you're sure.

Many factors that are mentioned in different discussions in the media and this book. Some factors are emphasized by some people and others by others. The emphasis is often related to which goal one thinks is most important.

Sometimes the goal of the strategy is just assumed, but not made clear. The primary goal is probably very important when choosing a strategy and there is the obvious question of who selects the goal(s), and who selects the strategy. Do the political leaders decide both the goal and strategy? Does any country use a popular vote? Are decisions of both goal and strategy turned over to “experts”?

I expect most experts would agree upon which actions would stop the virus most quickly, namely isolate everyone who has the virus. That is, however, usually not possible, because no one knows for sure who is infected.

Often, a number of people have been infected before authorities hear about the first one. In addition, it usually takes some time (a few hours to a few weeks), for the authorities to decide which methods to use and by this time the spread may be somewhat complicated to work out.

In many cases the goal is not explicitly decided upon nor expressed. Thus, it is often unclear when the authorities decide on a strategy i.e. which methods to use to achieve the goal(s) what they actually want to achieve.

When choosing a strategy of particular importance is the infection rate of the virus, how one gets infected, who gets infected, how serious are the effects, what treatments are available or will be available, and is there a vaccine or will there be one and when.

To get some idea of spreading, the age and health of the population are important, as are the living arrangements, such as how many people per living unit and what ages are the people, as well as what kind of living units are most common and how close together are they. How do people travel, how much and how far, as well as with how many people? How large are the groups individuals work in, eat with and associate with in non-working time? How is child care arranged? And care of the elderly? How stable is the health system? Are there qualified doctors, nurses, etc.? And do people in the health system and those that care for the elderly and children have sufficient protective equipment and the knowledge necessary to use it?

With reference to the economy there are also a number of things to consider. How is the wealth in the population distributed? If people cannot work, how long can they survive on their savings and any funds the government might distribute? If young people cannot get formal education how will that affect their future income? And what will happen to the national economy if people do not work and there is no export and import?

What effects on the mental health of individuals will occur if people cannot work and/or if schools are shut down? What will the negative physical effects be if individuals become more aggressive when confined to staying at home.

In short, Dr. Gabriel Leung, the Dean of Medicine at the University of Hong Kong, described choosing a strategy and its methods as a ***"three-way tug of war between protecting public health, livelihoods and mental health."***

Usually the methods the authorities wish to adopt involve:

a) having a number (sometimes a large number) of people helping to identify others who may have the virus (often called ***contact tracing***) and/or

b) avoiding contact with anyone who might be infected, (often called ***social distancing***.)

While it is true that choosing a strategy involves the above tug of war that Dr. Leung mentions, it is not only the ***theoretical balancing*** of these factors that is important. At least as important is the ***practical application and enforcement*** of them. Having decided on a goal and which methods of containment one thinks best to use, how does one get the population to put these methods into practice. Here arise many new questions.

If 20% of the population do not act according to a physical distancing recommendation, will the infection still spread and how much? If only 70% use masks, how much will that help? How does one get most people or all of them to do as the strategy decrees?

How do you get people to go into quarantine and stay there for the period desired? (In May, a survey in England found that only 20% of those with Covid-19 symptoms had self-isolated as fully as required.) How much pressure can be used and which types? Will positive incentives, such as economical payments, or negative punishments such as fines or stricter confinement or tracking with for example ankle bracelets work and/or be tolerated?

Chapter 10–Reactions to Authorities/recommendations

After considering all the various factors mentioned in Chapter 9 and perhaps a few more, as well as hopefully initially deciding on a goal for the strategy, the strategy must be put into practice. It would seem that in many cases, methods of “putting into practice” are not sufficiently considered.

Often one hears that one must use science rather than political considerations. A major problem here is that “science” does not decide goals. Goals are decided by people and one might suppose that the goals will normally be decided by the political leaders, since it will usually be difficult to carry out a referendum to determine what populations want as their goals. However, having decided on the goal or goals, it could be considered wise to use all the scientific data and theories available to decide what strategy or strategies have the best chance of reaching the goal(s).

I expect most experts would agree upon which actions would stop the virus most quickly, namely isolate everyone who has the virus. That is, however, usually not possible, because no one knows for sure who is infected.

Often, a number of people have been infected before authorities hear about the first one. In addition, it usually takes some time (a few hours to a few weeks), for the authorities to decide which methods to use and by this time the spread may be somewhat complicated to work out.

Usually the methods the authorities wish to adopt involve:

a) having a number (often a large number) of people helping to identify others who may have the virus (often called ***tracing***) and/or

b) avoiding contact with anyone who might be infected (often called ***social distancing***.)

This latter raises the question of how do you persuade a population to change their behaviour. It is usually not easy for people to make major changes in their behaviour even when they want to.

This question of changing people's behaviour is more complicated than most people realize, especially in countries that have "individual freedom" as part of their official culture. This freedom is, of course, limited in all countries. Even though some countries believe everyone should have the right to bear arms, these rights are usually restricted. In addition, most have, for example, some restrictions on a) taking objects that are prescribed as belonging to someone else (theft) and regulations about b) behaving violently towards other people or their property, c) who and how one may drive a vehicle on public roads (Motor traffic acts). Thus, freedom is never complete.

Getting individuals to change important parts of their behaviour necessitates different approaches in different countries, since different countries are organized differently and have different cultures. In the "democratic" countries, the authorities trying to implement changes must be regarded as ***legitimate***. In much of the world today, "science" is thought of as an important source of knowledge, so ***saying that one has the support of science*** will normally be an important tool.

Most people have heard today, as I spent many hours in my statistic courses pointing out, that it is very easy to lie with statistics. At the same time, most people probably do not understand statistical analysis well enough to interpret results, so they rely on designated experts, i.e. professionals to do the interpretations and if the professional present “their” statistics appropriately most people in most cultures will ***probably accept the professional’s interpretations as correct***. Later we will show how when 2000 researchers in Sweden tried to point out that statistics could be interpreted differently, they were “professionally” degraded by the authorities.

Partially because of this, it is very important that authorities choose the “right” person to deliver their strategy. In the USA for example, one can see major differences in results from Governor Cuomo’s presentations in the state of New York and President Trump’s recommendations to the USA as a whole. Here, we can also point out a major difference between the Swedish approach of saying to their citizens “You are responsible” and Cuomo’s imperative to New Yorkers to “Take responsibility”. The former says in some way “you are as you are, so continue on”, while the second says, “do something, irrespective to how you have been, now is the time to take responsibility.” In Sweden, this can easily be taken to mean that since we are (already) responsible, then we can continue to think and behave as we have in the past.

When we discuss the Swedish strategy later, we will note how the authorities were able for quite some time to successfully use reference to “science” to enhance their strategy, irrespective of actual results.

There is relatively little scientific work that we know of concerning how well populations follow directives from authorities. In my study of orienteers, related above, I was very interested in how individuals react in situations of stress when told to change their behaviour. This study showed quite clearly that ***even though almost all of the participants held the authorities (SOFT) in high esteem, they did not follow their guidelines strictly***. Here, of course, the question of interest was ***not*** whether orienteers ***thought that they followed*** the guidelines, but rather ***what they actually did***.

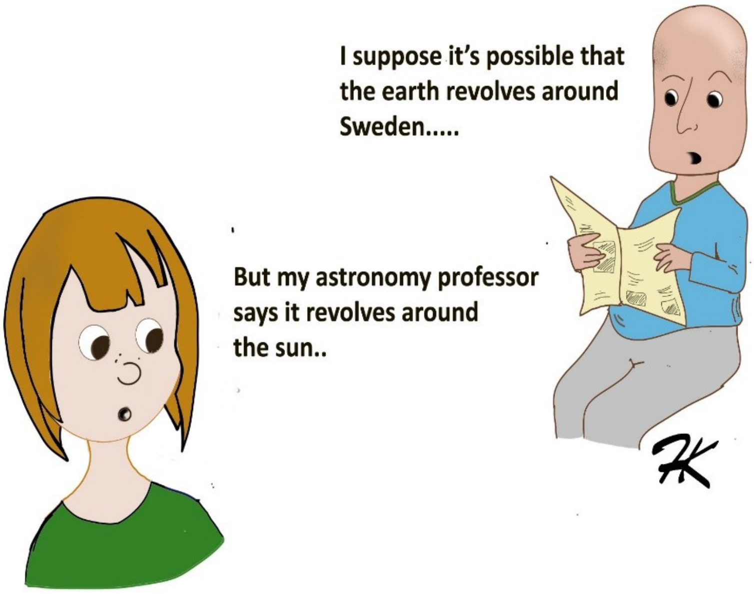
I am quite certain that many people feel stress from Covid-19 because of the possibility of sickness and or death from the virus, especially older people. In Sweden continual emphasis has been put on people over 70 a) staying away from other people and b) the danger of them dying, if they get infected. Depending upon the individual’s system of coping with stress, some 75-year-olds will react to this emphasis by becoming extremely stressed and perhaps completely isolating themselves, while other 75-year-olds might become less stressed because they have confidence in the authorities know what they are doing and will solve the problem. On the other end, this emphasis will probably mean that younger people are likely to experience less stress, especially if they are allowed to go to school, and play sports, and therefore they are less likely to follow any recommendations that say that they should change their normal behaviour.

In general people will try to cope with stress by ***avoiding situations*** that increase the stress or by some other ***type of tension reduction***. This they will do based on ***the principle of least effort*** which is directly related to how their friends interpret the situation and the recommendations.

Of importance here is also how the individual regards the person/people giving the recommendations. Whether is it better to be authoritarian or sympathetic is related also to cultural values, the legal system behind them, and how consistent the authority and their recommendations are. These things will be discussed more in the coming chapters.

Since the prime example in this book is Sweden, the Swedish culture is of major interest and therefore the next chapter has a short summary of it.

Chapter 11 – Swedish Culture


I suppose it's possible that the earth revolves around Sweden.....
But my astronomy professor says it revolves around the sun..
HK

Culture in Sweden, as in all countries, is complicated. In addition, as in other countries, much of the foundation of Swedish cultural beliefs is subliminal and therefore the conscious reasoning of Swedish residents often does not take into consideration the inconsistencies that often exist.

According to the Australian Cultural Atlas:

> ***Contemporary Sweden prides itself on championing human rights and equality, as manifested in its social welfare system. Additionally, concepts such as 'lagom' ('the middle way') and modesty are cornerstones of Swedish culture. https://culturalatlas.sbs.com.au/***

Here they continue by stating that core concepts in Sweden are egalitarianism, privacy, "lagom", modesty, mutual care, hard-working, consideration and I would agree that this is the ***official Swedish culture***. In addition, many Swedes believe this is how they live.

BBC has a documentary "underground world" where in the beginning they state

“Sweden is a peace-loving country”. I would propose that most countries and most people would like to have peace. Sweden has apparently been successful in getting much of the world to think that Sweden is more so than other countries. Swedish culture seems to have been successful in getting Swedes to believe that they, both as a country and individuals, are leaders in peace and are generous with helping the rest of the world with various foreign aid projects. This is done partially by the Swedish authorities teaching their citizens how to argue for this position using, as could be expected, supporting evidence, without naming much oppositional evidence. Thus, official goals and values can often hide practical effects that are sometimes contradictory to these goals and values.

A good example of this would be Swedish “neutrality”. Neutrality can be interpreted as “peaceful” or as avoiding taking sides, which could mean 1) not opposing either side or 2) not supporting either side. What did neutrality mean in the second world war?

As neutral, no Swedish soldiers had to die and Sweden (not being against Hitler’s Germany) could sell a lot of iron ore that the

Germans could use in weapon production. In addition, they could allow the German military to transport their weapons through the country, at least during the first parts of the war. Later (not being against the Allies), they could share military intelligence with the Allies, have underground training for Danish and Norwegian soldiers and let the Allies use Swedish airbases during the last parts of the war. Being “neutral” had substantial economic advantages.

As the author of an excellent Swedish (history and future predictions) book, ***Den Nya Oredans Tid (The New Disorder Time)***, 2019, a former Prime Minister of Sweden, Carl Bildt, wrote:

> ***we have often supported other countries in trouble – not only from the goodness of our hearts, but it is economically advantageous to us… in discussion of support to other European countries. (20200610)***

Sweden has during the last 50 years or so developed into what could be called a private culture where the government has the responsibility for the poor, unemployed, depressed, etc. Individuals have little or no individual responsibility for any such problems in the society. The main responsibility that the individual has is to vote for representatives to run the country at various levels, then the representatives, i.e. professional politicians, will have the responsibility of making the best laws.

The government even has the main responsibility for youth, not only deciding school curriculum for “school-age” children, but even have a curriculum for nursery school from 2-years of age. While it is not compulsory for children to go to nursery school it is expected that all will. (This if probably part of the reason that most adults think it is okay that now, under Covid-19, the government can make the decision that education is so important for the health of children that it overweighs the risk of contracting and spreading Covid-19. Of course, parents are penalized if they keep their children at home because they think the Covid-19 risk is larger,)

When I lived in Sweden the first time (studying Sociology, 1970-74), I noticed that a major difference between Canada and Sweden was how in Sweden when there was a problem with resources (income too low for example), people seemed to think it was the government's problem (increase pensions, better unemployment insurance, more to the poor as there should not be poor people on the street), whereas in Canada individuals, if they couldn't help on their own, formed groups to help the unfortunate. My interpretation was that in Sweden, individuals did not feel any direct responsibility for anyone except for family and a few closest friends.

(There are, of course, a large number of individuals that do help others in acute situations. So now, during this pandemic, there are people that offer help in buying food for elderly that have been told to stay home, but probably if the present problem should continue, it will expected that the government should arrange such help. And there are a few individuals that help non-Swedes, especially young ones, that want to stay in Sweden, but are having problems with authorities.)

But, most Swedes probably believe much of the time what the prime minster expressed when the Swedish approach to the Covid-19 virus was first announced, namely that Swedes are educated to believe in professionals and authorities.

While part of the Swedish culture is oriented to the idea that the "professionals" know what is best, there is still the idea that individuals can think for themselves. Here there is perhaps some kind of implicit assumption that the individual's thinking will correspond to the professionals with not much room for disagreement. It would thus appear that for Swedes “taking responsibility” means doing as the Swedish authorities say. In other words, Swedes should not consider what might ethically or practically be best, but do as a soldier “should”, namely obey his/her superiors. To some this situation might seem to be a paradox.

Much of what is central to Swedish culture can perhaps be understood by looking at the word "lagom" which The Australian Cultural page mentions. This word has often been written about as a concept explained from a Swedish point of view, without actually understanding some underlying feelings connected to the concept. A common explanation is that "lagom" means “middle of the road”. It is true that “lagom” does mean “not too much” and “not too little” ie. that Swedes do not do things in extremes and in some ways this seems to imply some type of middle of the road or a very considered quantity. However, these thoughts miss a central quality of how the word is paradoxically used, namely the quality of "best" which is fundamental to the concept of “lagom” in practice.

I’ve been thinking about this Swedish “lagom”. Can the middle way really be best?
Sure. You just have to define the middle as everything not off one of the ends. Then you choose what you think is the best and call it “lagom”. That’s being smart like the Swedes. Can’t go wrong!

Swedish authorities have chosen and defended their Covid-19 strategy, which they argue is ***not extreme, but the best***.

This Swedish somewhat contradictory “***lagom”, best, not extreme*** culture easily encompasses Björn Borg and Ingemar Stenmark who were extremely proficient. (We might not have thought of them as “lagom”, but perhaps lagom best?)

Swedish culture includes a number of concepts that are considered to not usually occur together. Erin Meyer in his ***The Culture Map (2015)*** writes that:

> ***The Swedes, for example, are both extremely egalitarian and one of the most consensual societies in the world. (p145).***

Use of face masks is for example a place where Sweden has taken an extreme position compared to the rest of the world. But authorities say that not using face masks is not an extreme. The arguments are, of course, that science does not show that masks have a clear positive effect, but may give a false sense of safety and if you are not careful and put them on improperly that you may spread the virus more. (More of this in ***Chapter 16 – Individual Strategy.)***

Here, as in much of the Health Authority’s presentations, is the assumption that the professionals paid for by the state are better scientists than other scientists who are not in the employment of the state.

Henrik Berggren and Lars Trägårdh write in their book ***Är svensken människa? (Is the Swede human?)***, (2006):

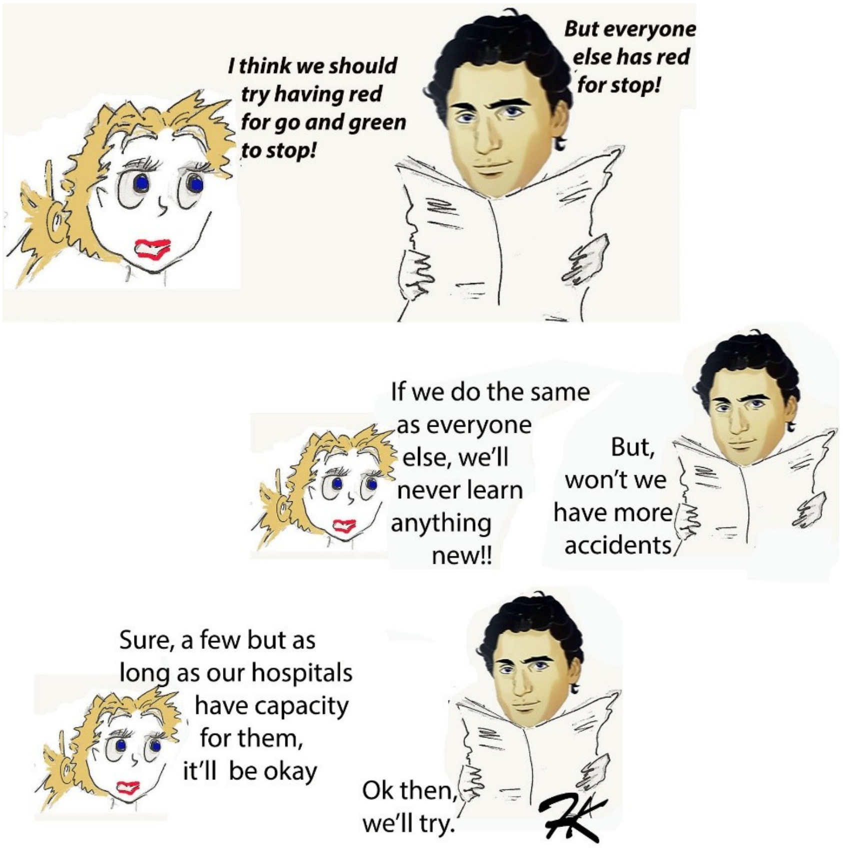
> ***Sweden has at times been overweight nationalistic in our view that we have solved the world's problems, we are the most modern country in the world. It's not so much whether we are not nationalistic, but rather that we do not have to yell about how good we are – we know that we are the best. (p.)***

Thus, as we wrote in the beginning of this chapter: Swedish culture, as all cultures, is complicated. Much, if not most, cultural norms are held at a subconscious level, and often what a member of a culture thinks is the most important way of explaining it, is not even close to how an observer from outside would see it. This is, of course, one of the reasons that there are large university departments in most countries which have not only one-year courses, but doctorate courses and professors in Psychology and Sociology.

It is not surprising that the Swedish prime minister and the Health authorities believed that the Swedish cultural belief in the authority of authorities (responsibility?) made it unnecessary to have more initial restrictions on social behavior, even though they would never have considered controlling vehicle travel on their roads merely with recommendations of driving on the right and keeping an appropriate distance from the next vehicle.

Fortunately, (at least in my opinion it is fortunate) not all individuals in a particular culture believe in nor behave according to the official interpretations of it. As will be noted later, those running a number of the elderly care facilities restricted visiting much earlier than the national government, which no doubt kept the death toll during the first weeks from being even higher than it was.

Chapter 12 – Swedish Experiment


I think we should try having red for go and green to stop!
But everyone else has red for stop!
If we do the same as everyone else, we'll never learn anything new!!
But, won't we have more accidents
Sure, a few but as long as our hospitals have capacity for them, it'll be okay
Ok then, we'll try.
HK

We begin our description of the Swedish Experiment with comments from BBC's web site on 20200525 where they discuss the Swedish strategy. Here they point out that Dr. Tegnell has lead most of the news conferences, looking mostly at statistics with little mention of the emotional impact on victims and their families. They say that the Swedish Public Health Agency has high approval ratings. They say further:

> ***In addition, the Swedish Public Health Agency pushed the idea early on that a large proportion of cases were likely to be mild.***
>
> ***But it denied its strategy was based on the overall goal of herd immunity.***
>
> ***A core aim was to introduce less stringent social distancing measures that could be maintained over a long period time.***
>
> ***https://www.bbc.com/news/world-europe-52395866***

As examined earlier there are many factors to consider when selecting a strategy to control the effects of a disease that is affecting a society. How one weighs different factors will have a major effect on what goal we prioritize and our goal will affect our choice of strategy.

(It can be of interest when interpreting the Swedish experiment to keep in mind that "science professionals" can be defined in different ways in different countries. Often "science" is considered to be politically independent or "free". However, in the Swedish experiment/strategy, the "professionals" employed by the government were considered to be the only real representatives of science, whereas other scientists and their interpretations were not considered of importance.)

There are a large number of goals that strategies can be aimed at. As explained above these include many that do not have the goal of getting rid of the virus nor quickly containing it and it was one such goal that Sweden officially expressed. The Swedish goal was to flatten the curve. Whether or not this goal was actually what was meant to be the official goal is not certain, but it was quite clear in the daily presentations of the Swedish Health Authorities. What the Swedish "flattening the curve" means may not be immediately clear, so it deserves some explanation.

Most of the official presentations by the Health Authorities ended with a variation of the following diagram.

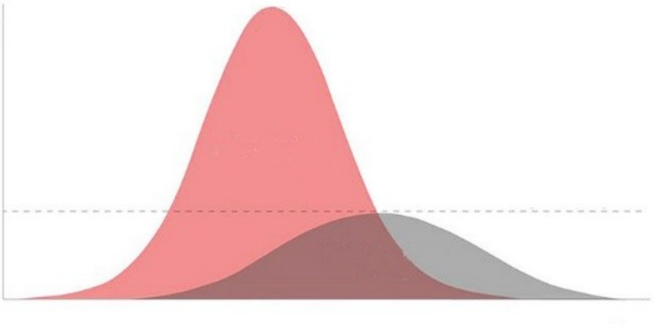


Figure 7

The volumes in the diagram gave the impression that the goal was to decrease the numbers getting seriously infected, but it was quite clear, however, that the explicit stated goal was to flatten the curve ***so that the number of people seriously infected by the virus could be handled by the health***

services. This was repeated many times on Sweden’s daily information program on the virus. At most of the daily press conferences between March and May the health authorities rounded off their presentation by saying that so far they had achieved their goal of flattening the curve. This was looked upon as a sign of the strategy’s success and a major reason for no explicit changes in strategy. It could be that as the BBC’s website said, that initially the Swedish Health Authorities thought that “a large proportion of cases were likely to be mild”, and therefore thought that a few serious cases and a few deaths were not of major consequence.

In any case, the goal emphasized was clearly one of flattening the curve, so that health services could handle all the cases.

As noted in Chapter 7, the first confirmed case of Covid-19 was March 6, and the first death March 11. This was somewhat later than the other Nordic countries, which meant that Sweden had a little more time to prepare than these other countries. Of course, even the other Scandinavian countries had longer than most other European countries, such as Italy and Spain. The other Scandinavian countries apparently used this extra time to prepare for methods to contain the spread of the virus as much as they could. As mentioned earlier, the methods used in Norway and Finland seem to have been quite effective.

Officially Sweden had begun to prepare in the beginning of the year, long before the first death, and the following was published on the web site of The Public Health Agency of Sweden on January 31, 2020:

> ***Classifying the infection as generally dangerous and societal dangerous are steps that strengthen Swedish preparedness. The Public Health Authority believes that the legislation needs to be in place in case Sweden should have a spread of infection in the society from the new virus. The risk of this is currently considered very low.***

It might be noted that in the above notice, the health authorities thought the risk of serious spread was “very low”. This can be kept in mind when we propose that Sweden was not well prepared for the spread.

Six weeks later, on March 11, 2020, after the first death, it seems that the risk was still considered relatively low and under control. The following was published on the web site of The Public Health Agency of Sweden:

> ***Looking up and confirming cases and tracking their contacts is much more effective so, there is no point in governments isolating entire communities or closing schools, said Michael J. Ryan, responsible for WHO crisis preparedness at a press conference.***
>
> ***For Sweden, this does not mean any changes in the work in progress. The assessments of risk and the important strategies and measures presented in recent days remain.***

This was very similar to many statements by health officials, as for example Johan Carlson, the general director for the health authorities said on March 11:

> ***The fact that the WHO has now declared that covid-19 is a pandemic does not make any***

> ***difference to how we manage the disease. We have already taken several important measures to prevent the spread in society and protect the groups at risk, the elderly and people with other underlying diseases.***

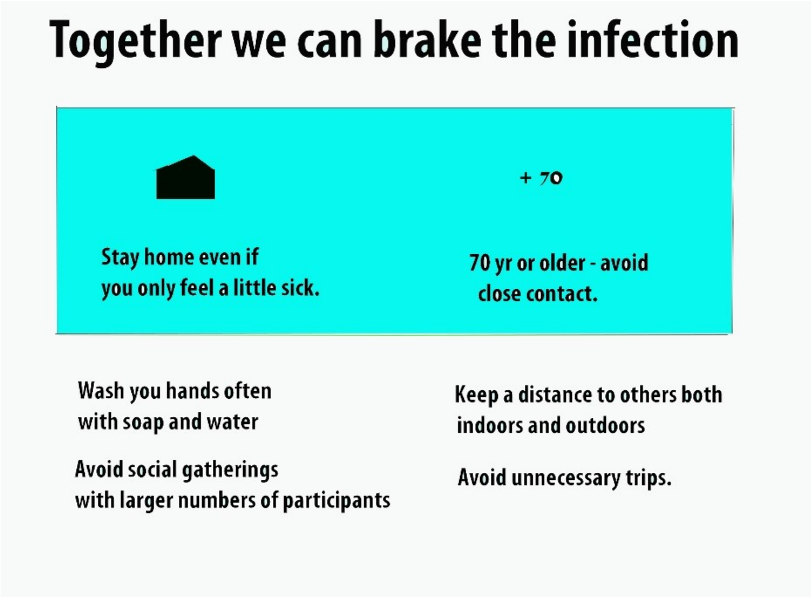
To some extent this seems to contradict the following which was also on the Swedish health authority's site at the same time:

> ***** Risk levels given below apply as of 2020-03-10 at 14.00. The risk level for dissemination in Sweden has changed since the previous risk assessment 2020-03-02.***
> ***Current risk of import cases:***
> ***VERY HIGH***
> ***The risk of spread in Sweden other than to people around individual import cases:***
> ***VERY HIGH*****

On weekdays at 14:00 from about the middle of March and to the middle of June, there was a program on a state supported TV channel featuring recommendations from three government agencies: the Public Health Agency, the National Board of Health and

Welfare and Swedish Civil Contingencies Agency. The representative for the Public Health Agency usually talked first and the other representatives usually referred to the PHAs presentation at least once in their presentations.

The main recommendations in Sweden were repeated numerous times on the authorities daily Covid-19 TV program and enunciated in a diagram such as the one below:



Together we can brake the infection

Stay home even if you only feel a little sick.

70 yr or older - avoid close contact.

Wash you hands often with soap and water

Keep a distance to others both indoors and outdoors

Avoid social gatherings with larger numbers of participants

Avoid unnecessary trips.

Figure 7

These recommendations we will discuss in our analysis further down.

Officially the reason given for having only these recommendations and not the stricter “lockdowns” that most other countries put into place, was that Swedes are used to following the recommendations of professionals. This assumption was discussed in ***Chapter 12 - Swedish culture*** and is further discussed in ***Chapter 15 Japanese comparison.*** It was also stated that Sweden was a free society and it was constitutionally not possible to force people to behave in a certain way. One can wonder how well these ideas, correspond to new recommendations on March 10 for Care Facilities for the elderly and hospitals which recommended that people not make unnecessary visits. One might wonder even more about constitutionally impossibilities when on March 30, the state passed a new temporary law which forbade visiting facilities for the elderly. It might be possible that this temporary law was passed because by this time the Swedish death toll was already 385 and growing logarithmically.

The Public Health Agency in Sweden had analysed how closing schools would affect health staff in Sweden. According to their report approximately 43,000 (10%) of doctors, nurses and related staff would not go to work. If alternatives for care of the effected children were considered is not stated in their report. No mention is made for example of the Japanese method of having schools open for children who had parents working in health, police or firefighting occupations nor does it mention WHO’s recommendations to close schools. In any case, the Swedish authorities decided to keep schools and nurseries open for those under 16 years.

The presentations given by the Swedish Health Authorities often sounded like they meant that keeping the curve low for a longer time might lead to herd immunity. Later in April-May, in answer to questions, they said that herd immunity was never their intention. However, a number of journalists certainly believed that the authorities had implied that it was.

One newspaper commenting on a Swedish TV program wrote:

> ***However, government officials have talked positively several times about flock immunity, but***

> ***the strategy is nothing to be hoped for, says Belgian epidemiologist Pierre van Damme in SVT's Agenda.***
> ***(Svenska Dagbladet 20200517)***

Another national Swedish newspaper also reported:

> ***A few weeks ago, both representatives from the Public Health Authority and other virologists and researchers predicted that Stockholm would achieve herd immunity in early June. Jan Albert, professor of infection prevention at the Karolinska Institute who has compiled a report on the state of knowledge about covid-19 to the Public Health Authority, three weeks ago supported the forecast that a quarter of Stockholmers would have had the infection in the early summer. Today he is not so sure., saying "I have realized that there is a lot of knowledge that remains to be gained". (Dagens Nyheter, 20100517)***

With regards to public gatherings on March 11, the government forbade public groups greater than 500 and later on March 27 the government forbade public groups greater than 50 and recommended “Risk assessment” for all organized groups of 50 or less. This assessment included a list of which factors were considered risky: a) large number of participants, b) international participation, c) participants from essential societal occupations, d) risk groups (age), e) type of activity, f) length of activity.

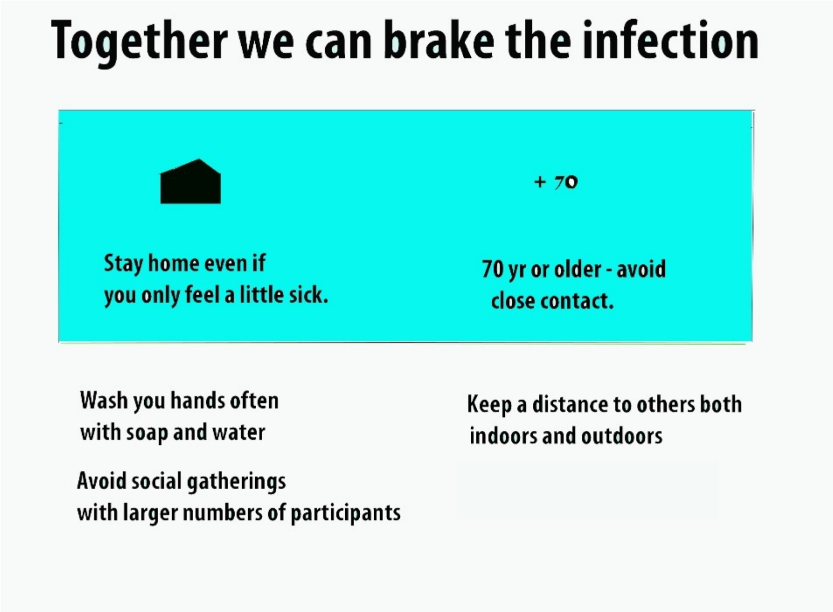
After doing this assessment, it was the organiser that decided if the risk was too great or not. Here, of course, the baseline was that up to 50 people is okay and youth 19 and under could have sports as usual since they were not important with regard to spreading the virus and when outdoors there is not too much problem.

Thus, following the guidelines that were given, many, if not most, sports continued their training sessions more or less as earlier. Initially, clubs changed what would have been larger competitions, so that no more than 50 people could compete.

Relatively quickly the official recommendation was adapted to restrict most competition, since it to was said that social distancing was not possible in most competitions. In some sports, organisers quickly changed to calling all small competitions (50 or less) for training events. Relatively quickly a new recommendation came that most such formal training was not to take place. After this in many cases, training was not said to be formal, but the times when some individuals would train was published.

It should also be noted that different methods were attempted to force restaurants and bars to respect distancing recommendations. Here it can be noted that this distance was 2 meters or 1.5 meters or one meter. It was difficult to get a specified distance.

Throughout the whole time the authorities showed and emphasized the recommendations showed in figure 7 above with the change in June when travel recommendations were relaxed to figure 10 below.



Together we can brake the infection

Stay home even if
you only feel a little sick.

+ 70

70 yr or older - avoid
close contact.

Wash you hands often
with soap and water

Keep a distance to others both
indoors and outdoors

Avoid social gatherings
with larger numbers of participants

Figure 10

The Public Health Agency said many times when asked about other restrictions or procedures such as the use of masks, that the recommendations in the above table were the important ones. When asked directly why they did not recommend other things even if they were not as important (such as use of masks), they avoided giving a direct answer, usually simply saying that the recommendations in the above table were most important at least until the end of July.

The Swedish argument for not recommending masks was basically that masks have negative effects, as if masks spread the virus. This argument reminds us of the way some people talk about the virus. As we have earlier written the virus does not spread itself, rather it is people who spread the virus. Similarly, we would suggest that masks do not spread the virus. It is possible that people using masks can spread the virus, if they do not follow correct procedures.

Even in July the press report by the health authorities often was rounded off by, after showing the above figure 10, saying that they were achieving their goal of flattening the curve and showing once again the following figure, which of course still had no scale on it.

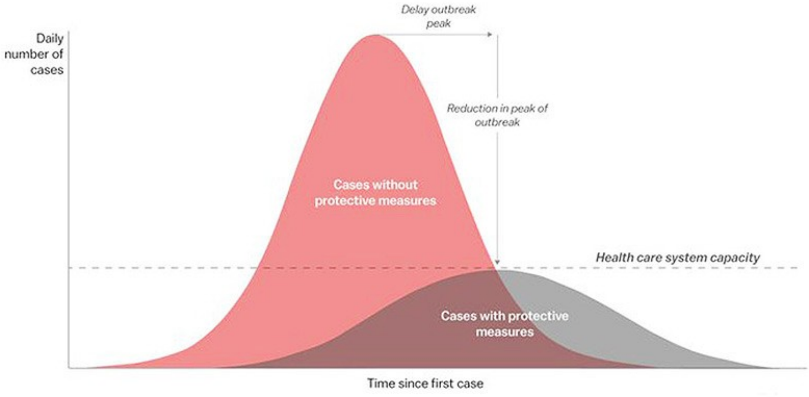


Figure 11

This Swedish goal of flattening the curve can be contrasted to what Australia's Premier said after a rise in infections in Victoria in June, 2020:

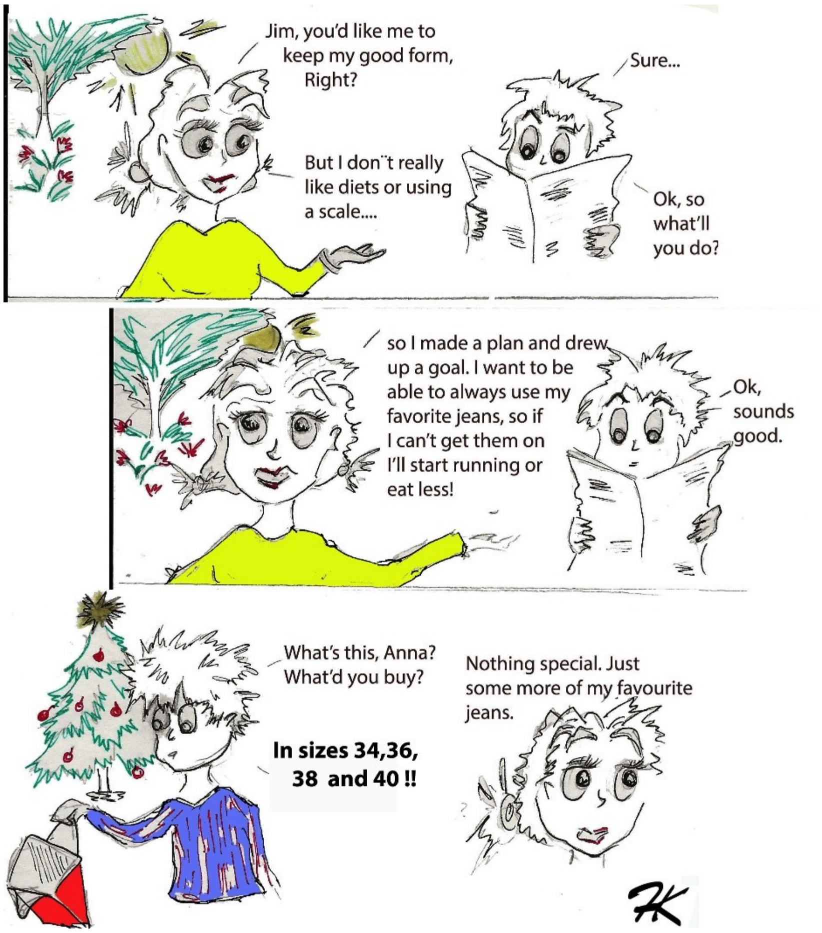
> ***"Our primary responsibility in South Australia is to the health, safety and welfare of all South Australians,"***
> https://fr.reuters.com/article/idUSL3N2EK46M

This rise in Australia's infections was used in Sweden as evidence that stricter measures were not better than Sweden's strategy. No notice was made of the fact that with this rise of 3 new deaths in Australia, Australia’s death ratio was 4 deaths per million while Sweden’s was 552 deaths per million, i.e. 125 times higher.

> ***"To a great part, we have been able to achieve what we set out to achieve," says state epidemiologist Anders Tegnell. "Swedish healthcare keeps on working, basically with a lot of stress, but not in a way that they turn patients away."***
> ***(20200717)***

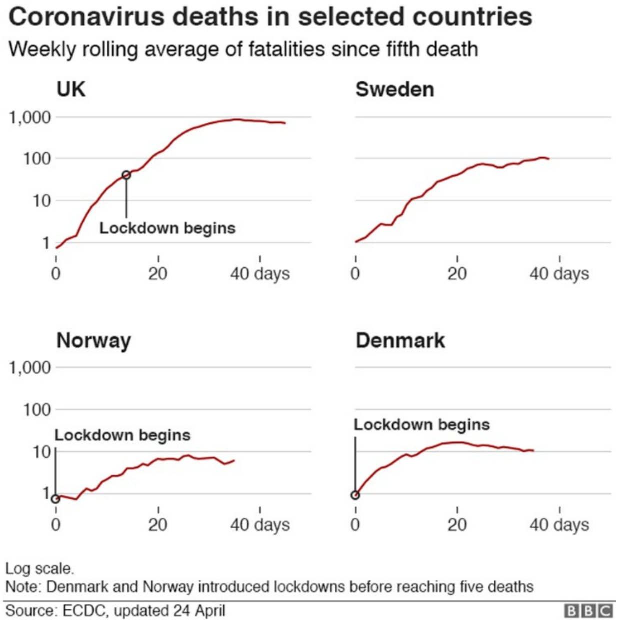
Notice again that the goal was not to reduce infections or deaths, but to keep the levels such that the health services could keep accepting people with Covid-19.

Chapter 13 – Early


Jim, you'd like me to keep my good form, Right?
Sure...
But I don¨t really like diets or using a scale....
Ok, so what'll you do?
so I made a plan and drew up a goal. I want to be able to always use my favorite jeans, so if I can't get them on I'll start running or eat less!
Ok, sounds good.
What's this, Anna? What'd you buy?
Nothing special. Just some more of my favourite jeans.
In sizes 34,36, 38 and 40 !!

Results of Swedish Experiment

When I started to write this book the Swedish death toll was approaching 3000 deaths, while in early March I had projected 5000-6000 deaths. As they continued to do until July, the Health Authorities showed their “keep the curve lower than the health care services" diagram and maintained that they were successful with their goal. Of course, they were not using Figure 10 which was taken from the EXCDC that showed Norway and Denmark with a rolling average of approximately 10 deaths a week and Sweden with approximately 100 deaths per week.


Coronavirus deaths in selected countries

Weekly rolling average of fatalities since fifth death

Log scale.

Note: Denmark and Norway introduced lockdowns before reaching five deaths

Source: ECDC, updated 24 April

Figure 12

At that time (early April, 2020) the number of people in care in the hospitals was an estimated 700. Since there were still beds in the hospitals, where more Covid-19 patients could be placed, the health authorities considered their strategy was working. They, of course, were referring to keeping the cases low enough that the hospitals could cope with the patients having serious Covid-19 and their Figure 10 shown above.

There was, however, on one program that the Social Systems representative showed what I thought to be a more informative variation, namely similar to Figure 13.

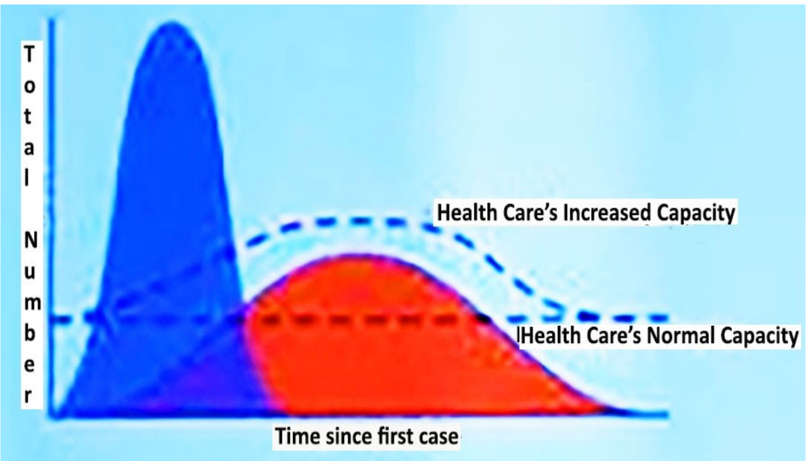


Figure 13

Here we see a straight horizontal line representing the normal capacity of the hospitals. There is also a curved line showing how capacity was increased to enable the treatment of Covid-19 patients. One could perhaps have had a third line which dipped in the middle to indicate capacity for what would have been the usual flood of non-Covid-19 patients to hospitals.

Of course, if there had not been a Covid-19 pandemic, many of these beds and “extra” beds used for Covid-19 patients would been filled with other people who had their operations postponed. In addition, since the health system could not find so many extra doctors and nurses that were necessary for all the Covid-19 patients, tens of thousands of operations, that had been scheduled or would have been carried out, were cancelled or postponed to leave room for covid-19 patients.

Most of the patients that haven’t received the treatment (operations etc.) that they would normally have received will probably have a number of months with extra physical and mental problems and in a number of cases may even die.

It is also clear that many sick people avoided going to the hospital, because they thought it was already filled with Covid-19 patients and/or they were afraid of contracting the infection themselves.

In any case, since the number of beds for treating those seriously infected was increased a number of times, it was possible for the health authorities to meet their goal of keeping the number of beds higher than the number of Covid-19 patients needing them. There were many indications that hospital personnel were being extremely over-worked, but they were still working.

There were very different effects in different care facilities and different workplaces. As named earlier the number of serious infections and deaths would probably have been even higher if some care facilities and workplaces had not put into practice much stricter restrictions than the Health Authorities recommended. In quite a number of care facilities, visits were stopped very early on and probably this was a major reason that many facilities had no infections. As mentioned above it was not until March 10 that the authorities recommended no visits and the government first passed a prohibition of visits March 30.

It can be noted also that a number of companies closed or set more restrictions about coming into work than the recommendations necessitated.

For example, the company, where a woman I coach works, has some facilities in China and they put relatively strict measures in place quite early and she says:

> ***Already in February the company I work was heavily affected by the Corona Epidemic in China. Around half of our employers are Chinese and work in Shanghai. Since Covid-19 struck in the middle of the Chinese New Year holidays, our Chinese colleagues were not allowed back to their offices and had to work from home.***
>
> ***So, when the pandemic reached Europe and later on Sweden, my employer and many of my colleagues prepared by bringing home monitors and other equipment to set up a home office in good time before the situation got worse in Sweden.***
>
> ***Since we have several lab facilities in which some people work, the office was still open. The strategy from my employer was to keep the number of people in the office to a minimum so that***

> ***people in the lab could work safely. The office was quickly equipped with extra hand sanitation gel and signs on the coffee machine to keep a distance. We were asked not to come to office by public transport. If needed, my employer paid for parking space in central Gothenburg so that people could drive into the city. I believe some people used taxi. Daily "morning check in"-meetings were held every morning from 8:00. A good way to ensure that people keep their rhythm. (Hanna Kumlin)***

Because the official goal of keeping the number of serious infections low enough that the hospitals could cope and since by June that the rate was stable and considered low, recommendations were changed to allow summer trips motivated as follows on Swedish TV2:

> ***We don’t think risks are so great, since there are lots of measures that can increase readiness for increased infections. That we***

> ***have said many times!!! (Anders Tegnell) Spread now is within the family and at workplaces and NOT in large groups..***

And later on the same program the following occurred:

> (Question by journalist), ***“realistic to expect students do so?”.***
> (Answer) ***“Don’t know but we can hope that they do as we recommend”. 20200609***

Chapter 14 – Japanese Comparison

He uses statistics as a drunken man uses a lamppost…. For support rather than illumination.

At first glance the methods used in Japan seem to be the same as the Swedish strategy, although with very different results, whereas there have been 560 deaths per million in Sweden there are only 8 deaths per million in Japan. The Swedes may come with one of their usual explanations that different countries calculate their numbers differently. I, however, choose to look more carefully at what each country has done. (Where not otherwise stated, information on Japan has been taken from a long article by Rupert Wingfield-Hayes, published on BBC news, Tokyo or from articles by Yuki Furuse published on USA's CDC web site.)

Starting with the apparent similarities, one such is the way the leaders look at their populations as superior to others. From Japan we can read:

> ***If you were to listen to Deputy Prime Minister Taro Aso, it is down to the "superior quality" of***

> ***Japanese people. In a now notorious comment, Mr. Aso said he had been asked by leaders of other countries to explain Japan's success.***

This can be compared to the Swedish Prime Minister who on March 20 said:

> ***You show that when it is toughest, then our cohesion is strongest.***
>
> ***I am sure that everyone in Sweden will take their responsibility to do their utmost to ensure the health of others, help each other and therefore be able to look back on this crisis and be proud of your role, your efforts for your fellow human beings, for our society and for Sweden. (20200322)***

Partially because both political leaders asserted that their citizens were better than others, they could use methods to restrain the virus that did not involve giving strict close down instructions and thus in both countries the initial recommendations were similar i.e.

a) keep your distance and b) stay home when sick.

Why then were the death rates so different? Was Taro Aso correct about the Japanese, but Lövren incorrect about Swedes? Can there be other differences? There are a number of things that we can read:

> ***But there is no doubt that many Japanese, and some scientists, think there is something about Japan that is different - a so-called "Factor X" that is protecting the population from Covid-19.***
> ***It is possibly relevant that some aspects of Japanese mores - few hugs and kisses on greeting - have in-built social distancing, but nobody thinks that is the answer.***
> https://www.bbc.com/news/world-asia-53188847

There have been suggestions that Japanese may have earlier had another similar Covid virus that gave them immunity. (Prof. Tatsuhhiko Kodams, Tokyo University.) This is possible, but not widely supported.

Another obvious difference compared to Sweden is that Japanese have been accustomed to face masks since the 1919 flu pandemic and one Japanese paper reports that Keiji Fukuda, an influenza specialist and director of the School of Public Health at Hong Kong University says:

> ***"I think it (a mask) acts as a physical barrier. But it also serves as a reminder to everybody to be mindful. That we still have to be careful around each other,"***
> https://www.bbc.com/news/world-asia-53188847

This idea that the mask is a reminder to everybody to keep their distance is interestingly the opposite to Sweden’s argument that mask wearing will say you do not need to keep your distance.

Besides avoiding the spread by their actions of physical distancing plus the use of masks, Japan seem to have a very effective tracking system that began in the 1950’s when they had a bad bout of tuberculosis. At that time, the central government set up a national system.

It was found that music places, especially with karaoke, cheering at sport events, and exercising in gyms were the worst places.

Jindai’s group also found that about 80% of those with Covid-19 did not infect others, while the other 20% were very infectious.

Because of these things, instead of just saying to people to physical distance, they had a national campaign to avoid the “Three Cs“:

Enclosed spaces with poor ventilation

Crowded places with many people

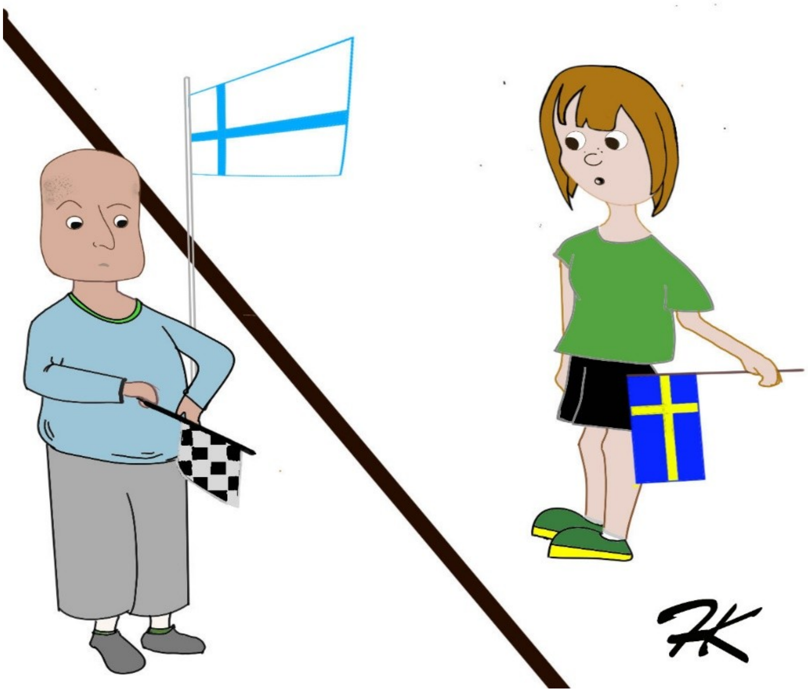
Close contact settings such as face-to-face conversations.

In Tokyo, when infections started to grow almost exponentially in mid-March, the Prime Minister Shinzo ordered a state of emergency (April 7), telling people to stay at home if possible. This seemed to be very effectful and the state of emergency could be quickly lifted.

Besides the above procedures being used in Japan, it can be of importance when looking at death rates to also note that coronary heart disease and overweight are lower in Japan, than anywhere else in the developed world.

Here, we can see a major difference between Sweden and Japan. At one level, Japan said exactly what to do in certain circumstances i.e. wear masks and wash your hands, and when to use your judgement i.e. take care and avoid crowded places. Sweden gave some exact directions i.e. wash your hands and stay home when sick or over 70 years, but then gave only general somewhat ambiguous guidelines: keep your distance and avoid large gatherings. These guidelines which they maintained were most important and clear were somewhat contradicted by maintaining that up to 50 (500 at first) people in a group are okay, keeping schools open for under 16 year olds is okay, and that much of what other countries and WHO recommend did not apply to Swedes.

Chapter 15 – Analysis of Swedish Strategy



Finland has just closed their border.
No one will be crossing the finish line.

Beginning with an American English teacher's comment which combines a bit of satiriic humour with a bit of reality, in response to the Quora question:

> ***"Sweden is a country that did not lock down their economy in fighting COVID 19. What is the bottom line on how their results compare to other countries that did lock down?",***

David Spain wrote:

> ***Good question! I was wondering this myself until I came upon this op-ed piece in the New York Times business section, Sweden Has Become the World's Cautionary Tale***
>
> ***Ah, Sweden! Who can't love the land that gave us IKEA furniture, Swedish Meatballs, ABBA, and blonde women in Volvos:***
>
> ***We might have to forgive them for ABBA. Regardless, Sweden experimented with Covid-19 during the first wave to see if they could have it both ways. No shutdown, just cold Nordic***

beaches and free tiny meatballs for everyone! That way, the economy would not suffer and everyone could go on being Swedish. Isn't that another great Swedish idea, a non-response to the Covid-19 pandemic and a nation hoping the economy would not be affected by a few more deaths of mostly old, unattractive people? Isn't that what Trump and his buddies were saying all along? For awhile, it looked like those clever Swedes were going to get away with it. Who knew? A Scandinavian nanny-state that agreed with the Trump administration. The Swedish government agreed, maybe the cure was

worse than the disease. Maybe they could just pretend that Covid-19 would not affect their country and that ABBA really was a great band. Maybe then their economy, as opposed to the rest

> ***of the world’s, would stay prosperous and fun.***

Of course, none of the deaths or illnesses were humorous, but the satire in the above quote, is not far from the way many people disregarded the seriousness of the situation. This to me was not surprizing, as the Swedish “strategy” left a lot of loop holes concerning how serious this pandemic was and is. The Swedish authorities would probably disagree with me here, but ***their maintaining that their guidelines were clear*** was and is part of the reason the death toll in Sweden is so high.

As I wrote in the introduction, I believe it important to know how people react in stress situations, both to the original stress (in this case the Covid-19 virus) and any additional stress caused by recommendations and/or laws suggesting or requiring that they behave differently than they normally would.

While the official presentations always included explicit statements that the situation that the situation was serious and we needed to follow the recommendations. However, the recommendations as a whole created the impression that the situation was only partially serious, but not really serious since many precautions that other countries were practicing really weren’t necessary. It would seem that the Swedish authorities did not agree with the statement in Bill and Amanda Gate’s ***Goalkeepers 2020 report*** that says:

“There is no such thing as a national solution to a global crisis.” (p.3)

As pointed out in ***Chapter 3 – Stress Theory***, the individual’s coping procedures tend to go by the ***principle of least effort.*** Here one’s friends are of major importance; what they think and what they do, as well as whether the suggested changes are going to interfere with how one usually interacts with their friends or carries out other activities. If the individual is given enough leeway to interpret the recommendations/rules, then she/he will probably interpret them so that her/his normal behaviour will ***need to change as little as possible***.

It seems obvious that the Swedish recommendations left a fair bit of leeway, despite the authorities maintaining that the recommendations were clear. One needs only to look at one of the main recommendations and compare it to one of the rules that was passed early on. Everyone was recommended to keep a social distance (in itself a little vague switching between 2 m, 1 m and 1.5m). Initially the government passed a regulation limiting groups to 500 people which was shortly changed to 50 people.

For some people it can seem mentally difficult to see how 50 people can keep social distance. Then you combine that with the authorities saying that if you are outdoors keeping distance is not so problematic, and that public schools are to be open and parents that do not send their children to school are to be penalized. (That’s true. Parents, who treated the pandemic as more dangerous than the authorities and wanted to protect themselves and their children, could be prosecuted.) You can also throw in the rule for sports that says that sports are okay for people 19 years and under.

These things can be a little confusing for many people if they start to think consciously about them. In practice, of course, ***people do not think of all these things at the same time. Individuals automatically choose the***

items that fit at the present time, thinking for example: “We’re clearly less than 50, so we’re okay. We’re following the recommendations.” (See my coping example in ***Chapter 16,*** which is based on actual experience.)

Health authorities, however, continued to say that their recommendations were clear. The two sports I know most about, where people over 19 were allowed to compete in July, interpreted the recommendations as follows:

In orienteering which usually takes place out in the forest, the organizers were only allowed to have 50 people in the forest at the same time. They started one at a time with a 1 or 2 minute start interval and were out in the forest 30-60 minutes. At the start there were only one or two at a time and immediately when coming to the finish, they were directed to their cars. My experience from orienteering in competitions with 500-1000 competitors tells me that most competitors with the present regulations may well not see a single person in the forest. With 500-1000 competitors one might at sometime see 2 or 3 people at the same control. It would be expected that this method of organization is unlikely to spread infections even if allowed 1,000 competitors. However, an examination of Athletics may not lead to the same conclusion.

A 10,000 metre race could have 30-35 competitors starting at the same time on a track 6-10 meters wide (my mathematics makes that 3 competitors for each meter). There are only a few officials, so the total number was under 50. However, in the bleachers at one end of the track, 50 leaders were allowed to sit. (There was space there to sit 2 meters apart, but how many people do you think did?) There was also an area at the end of the track, below where leaders sat, marked off by streamers where 30 competitors that would run in the next race could wait. You can add to this, that at least for the first 100 meters of the race as competitors start to breathe more heavily, there is still only about 15 meters from the front runner to the last. If it should happen that the lead runner is breathing out the virus, probably the other 29 behind her/him have a clear opportunity to breathe it in.

Thus, there was a ***clear difference in interpretation*** of how to apply the social distance recommendations in orienteering and athletics.

After the restrictions on visiting homes for the elderly was put into effect, I heard one comment***, "It was fortunate that I went to visit my mother the day before the restriction came."*** That was from a person thinking she was being responsible, as she knew that she was healthy and her mother expected her to come. Just then she did not consider the recommendation that people over 70-years-old should be quarantined.

In many ways the Swedish strategy was successful or at least the presentation of it was. Many of the qualities that are of importance when trying to get a population to do as the authorities wish were clearly apparent. The individual that did most of the presentations, Dr. Anders Tegnell, gave an ***authoritative presentation***. He was always calm and gave the impression of a factual scientist presenting the facts as they were. He was proficient at presenting the ***statistics that supported the Swedish strategy*** and of course ***avoiding those that did not.*** He was very proficient at avoiding direct answers to any reporter who was questioning the strategy.

In addition, Dr. Tegnell ***supplied people with arguments that they could use if anyone implied that the strategy was not the best.*** For example, it was pointed out that numbers for deaths from different countries could not be compared (at least not negatively against the Swedish ones) because counting and recording was done differently in different countries. Of course, statistics that indicated that the Swedish strategy was successful could be used and were. He pointed out that using masks could have detrimental effects because people might think that with a mask on, they were protected and would therefore not keep physical distance. It was also pointed out a number of times that there was no clear scientific evidence that masks helped. If someone pointed out that some other scientist(s) said something that contradicted the Swedish strategy, the argument was that he (Tegnell) did ***not listen to other people's opinions, but only looked at the science***. Naturally, no notice was made of the fact that his interpretation of the science was also an opinion i.e. a personal interpretation.

Dr. Tegnell was significantly impressive for many Swedes that there grew ***something like a cult around*** him that did not allow any dissent. There were/are a number of souvenirs, such as those below, that could be purchased to show ***Team Tegnell*** support and some supporters had his face tattooed on their arms.

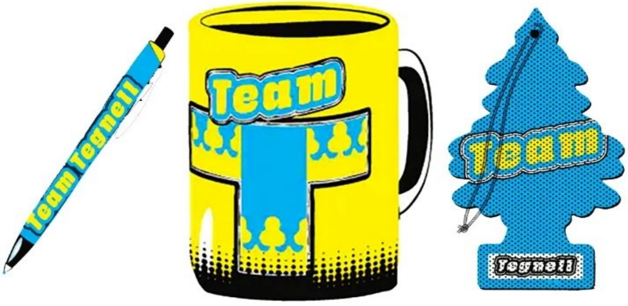


Figure 13

The local (pop. 60,000) newspaper, where I live, carried a number of times very large pictures of him (¼ page) along with articles or letters to the editor in support him. In conjunction with the Swedish holiday of Midsummer, he was wearing a halo of flowers. I do not think I saw any critical articles between March and June in this particular newspaper.

In June when other Nordic countries were preparing to partially open their borders, Sweden was seen as a disturbing influence in the corona pandemic. Therefore, there was a lot of hesitation about letting Swedes into these countries.

A general comment made by Johan Strang, a professor at the Centre for Nordic Studies said:

> ***Their different handling of the corona crisis can have consequences for a long time.***

And further a major Swedish newspaper DN takes up that Sweden is out of step and refers to an earlier article entitled ***"why Swedes became Health Authority Patriots"*** where it is discussed how the Health authorities have made the handling of the crisis into a competition:

> ***But since then, the competition element to compare different countries' corona strategy has continued, with death figures and R-numbers as measured values in the championship. The division of the team has been given sharp dividing lines: Anders Tegnell's***

> ***face is printed on t-shirts and tattooed on bodies. DN20200513***

Johan Strang also points out how the other Nordic countries have joined in the “competition”:

> ***It is not only Sweden that has a public health nationalism. We have ended up with almost one hundred percent around the strategy in Finland - and the same in Norway and Denmark. But Sweden is often used as a counter image in the other countries.***

It seems unfortunate that the pandemic should be seen as a competition, as this makes it ***very difficult for a country’s authorities to admit that they have made a mistake and change their strategy*** (at least officially.)

It seems that the Swedish authorities painted themselves into a corner. Since they maintained very consistently that they had done the best possible, they could not easily put in new restrictions that contradicted their original recommendations. They maintained instead that their recommendations were very successful. (They did say that it was unfortunate with all the deaths, but the ***deaths could be explained by things other than their strategy***.)

They “explained” that initially it was unfortunate that young people had come home from their winter vacation in Italy. Later it was unfortunate that care facilities for the elderly in some areas got infected and a couple of thousand died. (Some of us thought that a strategy to stop the spread of the virus was meant to stop deaths among the elderly.) Of course, the goal stated at the end of each press conference by the health authorities was not to stop infections or deaths, but rather to ***keep serious infections low enough that all the beds in the hospitals would not get full***.

Comparisons of statistics were always used to say that the Swedish strategy was working. Early on, deaths, etc. were quite good when compared to Italy or Great Britain that had much tougher lock downs. There were of course no comments that in the beginning GB had more or less the same strategy as Sweden and that their harder rules came after the British Prime Minister hade been infected and hospitalized. Neither was it noted that both Great Britain and Italy had much higher population densities and that Italy had less warning than Sweden. As pointed out above, ***authorities were very skillful at avoiding answering certain types of critical questions*** from reporters by giving other information concerning the success of their strategy. (How to lie with statistics was a subject that I often took up when I taught statistics and research design at university. This can be done in many ways. Probably most often by selection of the "correct" scale to use in diagrams.)

Since it was decided quite early on to keep schools for those under 16 years old open, it was important ***to emphasize that it was old people that got sick and died*** and that young people seldom became very sick or died. I did not see a single TV program or newspaper article that said anything else, although as of August 13, there have been twenty-two 0-19 year-olds in intensive hospital care (seven under 9 years) and one child under 9 has died. Of course, if you only think in statistics then you can say that it looks good that it's mostly older people that get sick and die and hide the fact that ***every single death is one death too many.*** And the parents of the young child that died probably do not think that it is good with ***only*** one death.

When 2,000 Swedish researchers submitted an injunction to the government urging them take more action, they were dismissed because they were not all epidemiologists and they were said to be disloyal. These researchers maintained that the scientific approach was to ***look at all the evidence*** and ***not opinions of the government's official authorities***.

Often in Sweden's official analyses, as in June for example, when the level of deaths was substantially lower than earlier, but still not close to zero, the ***term "stable" was used to imply that the recommendations were successful***.

Relationship to EU is also interesting. When talking about international travel restrictions, Swedish authorities officially argued that EU should have the same rules for everyone. At the same time, they have, of course, had very different restrictions on confining Covid-19, than all other EU countries. They were also in the small group which in July, 2020 was objecting to EU propositions for grants to economically support EU countries in serious economic trouble .

It can be suggested that the Swedish Covid-19 strategy was a Trumplike strategy to make Sweden economically stronger than other countries. Much similar to neutrality in WWII where Sweden was able to support Germany earlier in the war by selling them iron ore, arranging train transportation for their military and heavy arms, as well as later supporting the Allies in the war by sharing military intelligence and gaining economically by helping train refugee soldiers from Norway and Denmark.

Also of interest is that while Sweden’s health authorities agreed with the rest of the world that very little was known about this new virus, they also maintained a number of contradictions to this, perhaps in line with their assertions that Swedish people were better than other people in following scientific recommendations. Thus, they maintained that it was better to keep children in school (contrary to what almost all other countries did) and even published a paper May 29 to back up their assertions. The paper was appropriately titled: ***"This is the way children are affected by covid-19 – a knowledge basis***."

It is as if Swedish authorities ***really believed that their interpretation of what little was known about this new virus was better than everyone else and that they and the Swedish people are better than all others***. Swedes do as they are told. They are responsible. They take responsibility for other people (at least as defined by the law).

It is, of course, possible to interpret following (or obeying) the recommendations as meaning that there is no need to take any personal responsibility in deciding whether the recommendations are good or not. This would be similar to a soldier saying he is only obeying orders.

This idea that "Swedes are superior and do not need laws and regulations that other races/countries do" could make one wonder why there are Swedish regulations for traffic and penalties for violating traffic regulations. Why not just tell people that they are responsible, drive to the right, and keep a distance from other cars?

Our contention is that the Swedish strategy allowed the high death rate because of a number of miscalculations. The first being that everyone would follow their recommendations. Their own “research” indicated that only 90 % said that they followed the recommendations and, of course, even though health authorities said that was a good percentage, one can wonder how much the 10 % not following the recommendation could spread the virus, especially knowing that the virus is spread in clusters.

Here we have the additional problem of believing that the 90% who said they were following the recommendations actually were following them. In my research on sudden death among orienteers, I was not particularly interested in whether the orienteers thought that they we doing as recommended. I was ***interested in what they actually did*** and therefore my questions were introduced in such a way that there was no obvious correct answer. I did not ask if they followed SOFTS recommendations to not train or reduce training. Instead I asked how much they trained. These questions included answers from “more than earlier” to “none at all”, thus implying that other people might answer very differently from oneself.

I hope later to see the data from a project being carried out by the University in Lund, where they are trying to track the spread. They do not ask if one is following the recommendations, but rather for example, how many times this week were you in places with many other people.

I have seen many pictures, mostly on TV with both small and large groups of people very close together in restaurants or town squares. I have also personally seen many people, where I have been, not keeping physical distance. I have been bumped into when standing in line (marked for physical distance) to pick up a postal package.

When one looks at the recommendations and other specifications that the authorities made, it is quite easy to see how many people can have interpreted that the pandemic was serious in some ways, but not so serious in others. This can make it very difficult for the individual to decide what to do in individual circumstances.

Despite saying social distancing and protection of the elderly were important, they indicated first that groups up to 500 were okay which was later revised down to “up to 50”. They indicated that it was not important to keep children from spreading. Thus, saying that Swedish science was better than everywhere else where countries were keeping children from school. They repeatedly said that results in Sweden were good and that one shouldn’t regard other countries as knowing what they were doing and repeatedly picking out countries for comparison that had very different problems from Sweden (Italy and Spain in particular). They ***avoided directly comparing to their closest neighbours, Norway, Denmark and Finland*** that had far, far better results than Sweden. They compared to Finland only when they had a study which ***indicated*** that school closing ***may not*** have made any difference. Of course, information given about the study was rather emphatic that the study ***showed*** that closing made no difference.

However, in general it would seem that ***the Swedish strategy was successful in getting a lot of Swedes to believe that Swedes were special and their leaders and Health authorities were better than those in other countries***. They also succeeded in giving many citizens arguments to bolster this position, while avoiding looking at possible alternatives. They were also quite successful in keeping the countries TV stations in line and most TV commentators seemed to have joined the Swedish team.

They gave useful tools for defending the strategy, such as:

- “This pandemic is relatively unknown” (true and therefore can be used to refute any suggestion that some method used some other place might work)
- “But this is complex” (also true and therefore can be used to refute any suggestion that some method used some other place might work)
- “using face masks has dangers” (true of course, and clearly a good argument if they have no positive aspects)
- “other countries that had more severe lockdowns, are now having upswings”

(true, and important if care is given not to compare attributes of the populations of different countries or use percentages)

- Different countries calculate deaths and infections differently (with the implication that Sweden does it better and our numbers are better than others whether they are more or less)

Basically the Swedish strategy was/is similar to always saying “keeping your distance with your car is most important”, and then not using seat belts or improving safety of cars or roads, as well as not having penalties for when not keeping distance and perhaps driving so fast that an accident occurs.

Information comparison with Nova Scotia indicates a major difference in how important the Covid-19 Pandemic is portrayed to be. Sweden says basically three things:

“Wash hands/keep distance/old people stay home.” N.S. with a population of just under a million has pages and pages of information and how to behave. Clear pages that are easy to navigate. https://novascotia.ca/coronavirus/

It is possible to analyse the Swedish strategy starting from the citation of David Spain given at the beginning of this chapter and see the Swedish strategy as basically a discrimination strategy, not based on race, gender or religion, but on age, i.e. “keep old people out of the way” and there will be no problem.”

The initial policy (of not protecting elderly facilities) led to the sacrifice of a few thousand older individuals and included the main instruction for those over 70 years to isolate themselves. This later instruction to those over 70 years to not be part of the society will certainly lead to a lot of depression and in some cases death.

In short, the Swedish authorities said:

1) If you are young, there is no risk.
2) Being old is dangerous, so lock those over 70 years away.
3) Stay home if sick.
4) Be *somewhat* careful about getting too close to others, and work from home if convenient.
5) ***We Swedes are doing great, so just keep behaving as we have so far.***

In practice, there are many, if not most Swedes that have made some changes in behaviour. We do not hug as many people anymore. We try to not get too close to most other people. And a number of people do shopping for the “old” people, so they can maintain isolation. ***Probably a majority of Swedes are trying to do what they think is important.***

This is not so surprising since the health authorities repeatedly say that their strategy is working and people are following their recommendations. Thier interpretation of the numbers I find surprising, but probably most Swedes do not see the comparisons with their closet neighbours (Norway, Finland) as the Swedish health authorities never show them. In these numbers during the two summer months (June 5 – August 5), number of deaths per million went up 117 in Sweden, while in their neighbouring countries, Finland, Norway and Denmark the deaths went up only 2, 3, and 5!

In all of this it is important to remember that the main goal of the Swedish strategy was not to get rid of the virus or eliminate deaths, but rather the goal was to have place in the hospitals to take in those that were seriously sick. Thus, they called the situation for stable when the level of infection was lower than earlier and there were 1-3 deaths per day! This was presented as a positive result of the strategy.

Most Swedes probably think of themselves as helpful and generous and they are helpful and generous to close relatives and perhaps to some close friends. However, as regards to other people, it is basically the responsibility of the government to arrange for pensions, assistance, unemployment problems, alcohol and drug problems, etc. A very interesting analysis of how this was developed during the past 200 years can be found in ***Is the swede human?*** by Berggren and Trägårdh (2006).

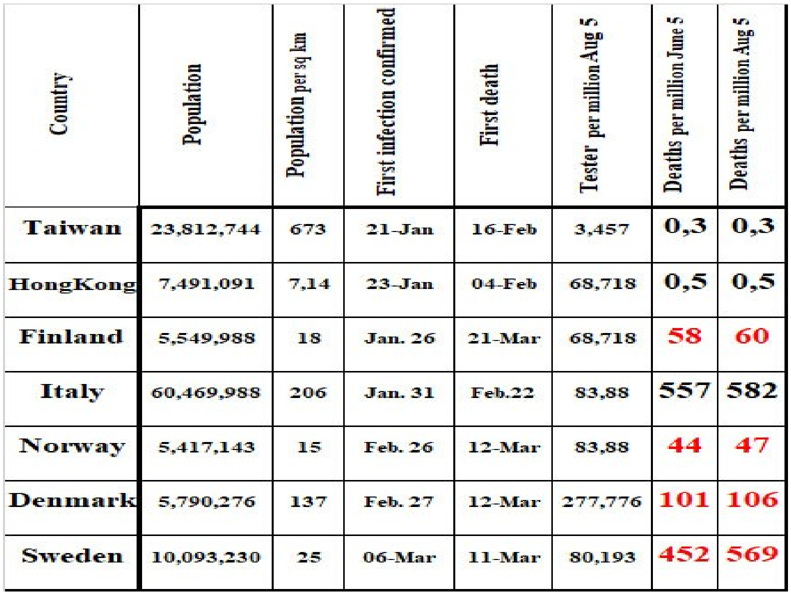
I expect this Covid-15 pandemic to last for at least a year or two, so I personally have not isolated myself. I do often wear a mask and do avoid coming closer than necessary to most people. I am, however, “out and about” and see how a lot of people behave and therefore I do not rely on the Public health authorities when they say most people are keeping physical distance. Yes, most people do not go as close to others as they did previously, but if they think they are keeping the recommended distance apart, then most people do not know how far a meter is. When waiting in a lineup to collect a parcel, I have found there is a good chance that, if nobody bumps into me, someone will come within a decimeter. (Of course, I am 77 years-old and since I have not isolated myself, no one else needs to worry about coming close.)

In all this analysis of Sweden as a country, it can be important to remember the size and organisation of Sweden. Perhaps a comparison to the U.S.A. can explain some of the discrepancies between how the official Health authorities evaluate the situation and the observations of a non-official analysis.

Sweden is the size of North Carolina the 10:th largest state in the U.S.A. From the outside, Sweden can look like a unified country, while in many ways divided similarly to the U.S.A. and the advisory units to the president are in some ways similar to the Swedish Health Authorities and the Social Services Unit.

The actual health service (hospitals, etc.) is administered by 21 regional political units and care of the elderly is governed by 210 communes. Because of this distribution of power, when the Swedish health authorities gave their initial recommendations about Covid-19, some communes went much further and quickly stopped visiting to the elderly. This I believe was very fortunate, as otherwise the spread among the elderly and death toll would undoubtably been much higher than it was. It took the Swedish government 2-3 weeks to pass a temporary law to restrict visiting, but by that time the spread among the elderly had slowed in all communes. The distribution of political power can also been seen as part of the reason that the central health authorities did not take any responsibility for the high death toll in Sweden, but could maintain, much as President Trump does in the U.S.A., that their actions have controlled the spread of Covid-19, while the deaths, infections, etc, are a problem for the individual districts.

I want to end this analysis (writing in August) of the Swedish strategy by saying that I really hope that, I am incorrect in expecting that in the autumn infections and deaths will increase in Sweden. Even if I did not live here with my family, I would be hoping that I am incorrect. Missing lockdown in March-April and not using masks, I think has lead to a very wide spread of the virus, which makes it very hard to contain.



Country	Population	Population per sq km	First infection confirmed	First death	Tester per million Aug 5	Deaths per million June 5	Deaths per million Aug 5
Taiwan	23,812,744	673	21-Jan	16-Feb	3,457	0,3	0,3
HongKong	7,491,091	7,14	23-Jan	04-Feb	68,718	0,5	0,5
Finland	5,549,988	18	Jan. 26	21-Mar	68,718	58	60
Italy	60,469,988	206	Jan. 31	Feb.22	83,88	557	582
Norway	5,417,143	15	Feb. 26	12-Mar	83,88	44	47
Denmark	5,790,276	137	Feb. 27	12-Mar	277,776	101	106
Sweden	10,093,230	25	06-Mar	11-Mar	80,193	452	569

Fig 14 – Red numbers are the number of deaths per million I Sweden and the three countries with borders to Sweden on June 5 and August 5

Chapter 16 – Coping Example and Risk

I’ve heard that some people

Won’t admit that they’ve done

Anything wrong.. that’s strange..
I’d certainly admit if I ever had….

All people are continuously coping with situations where they must decide between different alternatives. The main principles involved in this often subconscious mechanism have been noted previously: ***avoidance or tension reduction*** using the ***principle of least effort.***

To perhaps better explain how this could work I relate here how a 30-year-old Swede might cope with the Swedish recommendations to change behaviour.

In short, the Swedish recommendations are:

1) Stay home if sick
2) Wash hands
3) Avoid large gatherings
4) Keep a distance from others
5) Avoid unnecessary trips
6) 70+ years – stay home

Most of the time the Health authorities say that their strategy is working very well and after 6 months they are saying that the situation looks good and is very stable.

How might a 30-year-old think about these things? Here is a distinct possibility:

1) ***“Stay home if sick”*** - no problem as I never go to work when I’m sick.

2) ***“Wash hands***” - Sure, I can wash my hands a bit more when possible.
3) ***“Avoid large gatherings”*** - Hmm… okay ***49 or less*** is okay, so only small parties.
4) ***“Keep a distance from others”*** - Sure, I can avoid coming ***too close*** to people, at least most of the time. Of course, children are no problem since elementary ***schools are still open***.
5) ***“Avoid unnecessary trips”*** - I seldom take ***unnecessary*** trips anyway.
6) ***“70+ years – stay home”*** - that’s good. I won’t have to worry about causing anybody ***old*** to get sick and maybe dying, since they are supposed to stay away from others.

What do you think this might mean in practice for this 30-year-old during a particular week? ***He might think as follows:***

> ***Monday*** - I feel good today, but I’ll work from home anyway. My wife can go to the store, so I’ll only meet the two people I’m running with this afternoon. They’re both healthy, so they’re no problem.

Tuesday – I feel good today, but I'll only go into work for a short time and only see 2 or 3 people there and probably only be within a meter or so to them a couple of times.

We're eating with a couple of friends this evening, but we're not going out, just eating at their place.

Wednesday – I worked at home. Had to go to the post office to send a parcel, but there were only 3-4 people there and I was only closer than a meter to one of them, except for the person that bumped into me.

Thursday – I was a short time in the office today. I had a bit of training, but we were only about 10-15 people and not very close together. They say that those 19 years and under can train as usual and that it's healthy. I'm not 19 years any more, but in much the same shape as I was then.

I listened to the Health authorities presentation today. They said we've flattened the curve and that their strategy is working, We Swedes are

responsible, so ***I can just keep doing as I've been doing.***
Friday – I worked at home all day, except for a trip to pick up a parcel. Oh, and while at the mall to get the parcel, I was into a drugstore and a bookstore. There were quite a few people, but I stayed away from most.
Saturday – I've really followed the guidelines well this week, so it should be okay to take the bus over to see my parents for a few minutes. Then I can pick up the stuff I left there last week. And this evening we're having a couple of friends over to eat and play some cards.
Sunday – I answered the Covid-19 questionnaire today (I'm in a little government scientific study). I couldn't say that I ***always*** followed the recommendations, but ***most of the time***, as that's what they wanted. That'll give me a few more points. (The study gives us a few bonuses for answering well.)
This week I haven't gone out nearly as much as usual and I am very healthy.

> It should be ***no problem for me to visit my older uncle today,*** since he’s very lonely and I’ll only be there a short time.

Here, we see how this 30-year-old was able to do most of the things he would normally do without changing very much. He did work at home more than usual, but may even have found that more effective than being in the office all the time.

He felt that he was doing as the health authorities had recommended most of the time and therefore could feel satisfied that he was ***not causing any problems***. So, from a personal point of view, ***he coped very positively*** with the situation.

Was he following the recommendations? Besides his wife, he had seen about 40-50 people during the week and had been relatively close to at least 10-15 of them. Concerning the 10-15 people he had been close to, we do not know how many other people each of them had been close to. Probably a total of 100 would not be too high

Is this what health Officials mean by physical distancing? Of course, the risk of this 30-year-old having been infected during the week and further infecting his 73-year-old great uncle is not very great. There are not all that many people with the virus.

The question is ***what percentage of risk is reasonable and responsible?*** When we get in a car, that has been thoroughly safety checked within the last year, to drive 100 km, we put on seat belts to avoid serious injury in an accident. What is the risk of an accident during that 100 km drive?

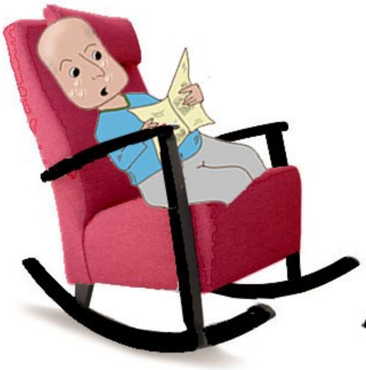
In 2018, Swedes drove passenger cars a total of 6,842, 394,150 kilometres and there were 20,500 accidents with a total of 324 deaths. That's one accident for every 3,387 trips of 100 km and ***32.4 deaths per million of population***.

From Covid-19, Sweden has already 575 deaths per million of population. Of course, I think that every unnecessary death is a tragedy, but the numbers show that there are already 15 times as many deaths from Covid-19 this year than from car accidents during the whole of 2018. Why do we have seatbelts? But not face masks?

And what was the risk to our 73-year-old great uncle that our 30-year-old visited? Was our 30-year-old Swede being responsible?

Chapter 17 – Handling stress

Crying over mistakes, can feel good, but to move forward, you must first stand up.



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As stated earlier, it is clear that this pandemic has created and continues to create much negative stress in many, many people. Since stress is a basic factor of most human activity, it is important not only now, but always, for individuals to cope positively with it.

As discussed in ***Chapter 3 - Stress Theory –*** we are constantly in situations where we must make some type of decision/reaction and ***all decisions/reactions entail at least a little stress for our systems.*** Many of our actions are of course handled by our subconscious, such as when, at dinner time, we are deciding how to get our peas to our mouth.

Reacting to the threat of Covid-19 also entails some level of stress. Deciding on whether and how to change our behaviour in the face of any recommendations that others might make can cause as much or more stress as the fear of the virus.

It is possible to handle this stress, in a similar way to how many orienteers handled risk of death and recommendations by the Orienteering authorities in 1993-94. ***We can***

completely discount the risk from the virus and decide to react very little and continue with our “normal” behaviour. As Donald Trump recommends. Some people certainly use this technique, but I expect that very few adults have chosen this reaction to the present pandemic. Rather I am quite sure that most people react to a somewhat greater extent.

I believe the best starting point for handling any stress in a positive way is a ***basic ability to relax***, which hopefully you have already developed. Since stress can be both positive and negative in competitive running, all of my athletes train regularly to use a moderate level of positive tension to maximize their results. They do this by doing systematic mental training using a method developed by Lars-Eric Uneståhl of the Scandinavian International University. This method, which I think is very good, can be used by anyone, but various other methods can also be used, such as Yoga for example. If you have never trained any of these things, you can always begin now. The ability to relax is important for many reasons!

Whether or not you have already developed the above ability to relax, there are a number of things that can be of help in the present situation. Here I will mention only a few.

Of course, I think it is advantageous to use ***the strategy for avoiding infection*** that I will discuss in the next chapter. However, to keep the negative stress that can occur in the present situation as low as possible the following can also be useful.

Most people feel less negative stress if they ***have friends around them that behave the same way as they do*** and agree with one’s actions. Therefore, it can be of advantageous to convince your friends to do the same as you do and if this is not possible, it may be best to find people that do behave as you do and become friends with them.

In addition, it is important to ***form any changes in behaviour into routines***. Routines usually reduce stress. Such simple things as always putting your mask on in certain situations and in the same way should help. For example, if your mask fastens over your ears, always put the left side on first. Not having to think consciously about the risk of corona and why you are putting on a mask every time you do it, will reduce stress. This is similar to not thinking about risks for accidents every time you put on your seat belt in a car, bus or plane. I suspect that most of us put on our seat belt automatically when we sit in a car and if we think anything in particular about why we are putting it on, it may well be the financial fine, if a police officer should catch us without it on.

It may be helpful to ***discuss with someone*** about how most of us put on our car seat belts and follow traffic regulations even though the risk of an accident is relatively low even if we travel quite far on the highway. In the same way, we can probably reduce our stress by discussing positively with someone the positive effects of following the regulations to contain the spread of the virus even though the risk that we will get an infection on our next excursion is relatively low. While the ***risks*** for both highway accidents and corona infections are relatively ***low,*** the ***effects***, if they should occur, can be ***very serious***. By ***understanding this balance and putting precautions into routines***, such as we have for putting on seat belts, ***we can manage Covid-19 stress much more positively.***

Chapter 18 – Individual Strategy

Sometimes you have to let go

Of the picture you’ve been

Given of life and learn

to build our own new story

There is nearly complete agreement both theoretically and practically that if people do not come close to one another, the Covid-19 virus will not be spread. Therefore, it is obvious that if every individual that had the virus was completely isolated, that they would not spread it to anyone else. It is, however, difficult to completely isolate anyone and, in most cases, countries have not been able to even identify all individuals that have the virus which makes it impossible to isolate them.

This is the reason that ***"physically distancing"*** (usually called social distancing) for everyone has been widely used. In this way individuals avoid coming close to anyone that might happen to have the virus. Here the main problems are deciding ***how large the distance must be*** and ***how to get other people*** to keep their distance.

Individuals can try to avoid others by isolating themselves, but in public they can not force other people to keep their distance. This is why ***masks*** become interesting. Many countries that have kept the virus under strict control, such as Taiwan and Uruguay, have nearly complete use of masks. There is little doubt that masks have some effect of physically stopping virus particles from spreading a) from those that have an infection and b) to those who do not have an infection. Some studies indicate that masks reduce the risk of infection by 80%, but I would think that even 20% would be reason for use.

However, the main positive effect of masks may be as noted earlier, that ***seeing masks on other people reminds us that the spreading is serious*** and that we really do need to avoid coming too close to one another. (I have personally seen here in Sweden that when I walk with a mask among other people, almost everyone gives me a wider birth than the people without masks.)

While knowledge about attributes of the Covid-19 virus is increasing, there is ***still a lot that no one knows***. The virus can apparently exist on surfaces for a few days, but the main spreading seems to be ***through the air*** from one person to another. Standing still indoors with no air movement it would seem that the virus will not move more than a meter or so if people breath calmly and don't talk or sing. However, as soon as there is air movement and people talk or breath harder, then the spread can be substantially further. In many cases, such as karoke singing or running behind someone else on a training run, 2 meters is probably not nearly enough.

Because of the reasons stated above, it would seem that, as an individual, it is best

1) to try to keep at least 2 meters from other people,

2) to wear a mask and

3) to hope other people do the same.

Because the Covid-19 virus can exist for some time on surfaces, it is also important to not move the virus from some such surface to your mouth or eyes. Here it could be noted that for most individuals using rubber gloves may be a bad idea. If you get a virus on your gloves, then you must dispose of the gloves before touching your face and without transferring the virus from your gloves to your hands or clothing. Unless you are working in health care with rigorous routine for protective clothing, you may inadvertently spread the virus.

The best routine to avoid transferring a virus from some surface to your mouth or eyes is

to use a disinfection and wash your hands regularly, especially if you are in or have recently been in a public area where you have touched a handrail or some other item.

If you and everyone around you followed the above procedures, then probably no one would spread the virus and having a category of risk groups would be unnecessary. While older people might be recommended to take extra precautions because other people do not follow these procedures, there would be no need to practice age segregation and isolation. ***Spread occurs because an infected individual spreads the virus by coming too close to a susceptible individual. The virus does not spread itself. We spread it.***

This means that we are responsible. We are responsible if the virus is spread and we are responsible if it is not spread. Hopefully, we will all be responsible for it not spreading.

While as an individual you can decide about your own behaviour and hopefully influence your friends to also behave in a way that will not spread the virus, it is up to the legal authorities to find methods to stop other people from spreading the virus.

(In the following ***Chapter 19 - National Strategies*** - we discuss methods that national authorities can use to encourage or force other people to keep their distance.)

In order for legal authorities to decide on effective methods to force their population to change their behaviour, it is important for them to understand why and how people under stress behave and think. This is what the ***Chapter 17*** dealt with.

Before going to ***Chapter 19 – Influencing Stressed Individuals,*** I repeat in short form some of the information given on the Covid-19 page in Nova Scotia, Canada.

> **When worn properly, non-medical masks can reduce the risk of transmitting the virus in the same way that following cough and sneeze etiquette can protect others. Public Health strongly recommends that you wear a non-medical mask if you have respiratory symptoms (like coughing or sneezing) and you'll be in close contact with other people, or if you're going out to access medical care or other essential health services.**
>
> **Even if you don't have symptoms, Public Health strongly recommends that you wear a**

non-medical mask whenever you’re in places where it’s hard to maintain social distance (like public transit, stores and group living situations).
Using a mask alone isn’t enough to prevent the spread of COVID-19. You should also make sure to keep your hands clean, follow cough and sneeze etiquette, practise social distancing and stay home if you’re feeling sick.

https://novascotia.ca/protect-yourself-and-others-from-coronavirus/

Chapter 19 – Influencing Stressed individuals

Stress is important for survival
And a good life. More important
Is chanelling stress stress into
Positive actions and feelings.
Ability to relax during stress
Is thus most important.

Individuals experience threats and risks in many different ways. In my study of sudden death among orienteers, (a relatively small percentage of the population of Sweden), it can be assumed that very few Swedes thought that their life or one of their friends was at risk of a similar death and therefore they experienced no stress because of those deaths.

However, if you consider the population of the top 100 orienteers in Sweden, they probably all ***knew someone*** that had died and maybe had even recently trained with them. It is very likely that all of these individuals, felt stressed because of the risk that they themselves or one of their close friends might possibly die. Probably most of these individuals had ***group training*** as a basic part of their weekly routines and had had these routines for a number of years. Probably most had much of their social support from people that participated in these training sessions. The idea of not only stopping group training, but substantially reducing all training, certainly also caused a very high level of initial stress.

As discussed in ***Chapter 3***, one tends to cope with stress by ***avoidance or tension reduction*** using the ***principle of least effort.*** The importance of the activity or activities that can be changed is of central concern here. To many people stopping training would seem to entail the least effort (since training involves working hard), however, for many, if not all, top elite athletes ***stopping training involves extreme effort***. Thus, very few orienteers stopped or cut back extensively in training. Many used another method of tension reduction, namely, ***discounting the recommendations as important and concluding that the amount of training was not the problem***, but training when ***sick was the problem***. Thus, most orienteers could continue training more or less as earlier. And already six months later when the recommendations to train less was lifted and competitions had returned to “normal”, the general level of anxiety was relatively low.

How can we compare orienteers’ reactions to their sudden deaths with reactions of people today to Covid-19? Initially, it is probable that almost the entire population of many countries thought that they were under a serious risk of sickness and possibly death when Covid-19 was declared a pandemic. However, quite quickly most people probably realized that the risk was not the same for everyone, as quite quickly statistics showed that although the virus was very contagious, that the symptoms and the seriousness of reactions varied significantly especially with reference to age and previous health conditions (in Sweden the health authorities even said that there was little risk for elementary schools to continue as earlier.)

Thus, individuals in different age groups have felt different amounts of ***personal physical risk*** and therefore probably very different levels of stress. Any recommendations to significantly ***change daily behaviour*** also entailed some stress, which could also vary according to how severely the changes would be.

How great individuals think their own personal risk (including the risk to people personally important to them) is will be influenced by the “information” they receive from media and friends. ***Some people will think the risk extremely great and will***

cope by completely isolating themselves. Some will think there is ***no risk*** to themselves or friends and therefore will have little stress to cope with and will continue their lives much as earlier.

Most people will probably be somewhere between these two first groups. Therefore, most people will have to ***balance*** what they believe to be their ***personal*** (including close friends and relatives) ***risk*** with the ***changes in behaviour*** they think any recommendations from authorities might entail. Many people will also include risks to other people in their population in their balancing.

This balancing contains a number of components and the ***weight of different components will change over time***. In general, as with the orienteers, after a half year or so, estimation of possible risks will probably diminish and thus changes in behaviour will seem less important. There will, of course, be a few people who have friends or acquaintances who have become infected and even died and for these people the balance will have gone in the other direction and changes in behaviour will be much more likely.

Thus, in general, if you want to influence people to change their behaviour in a stressful situation, you will probably want to ***increase their estimation of risk*** if possible. In the present case, the percentage of deaths is still relatively low (i.e. relatively few people will personally know someone who has died). One method of influencing people to experience the risk of death as important is to ***treat each death individually and not as a statistic***. This can possibly be done by instead of saying “Things are improving and we are now down to only two deaths per day the past week” saying “Unfortunately, yesterday, two more people died, Elsie in Stratford, and James in Sidney.” Giving information a personal touch will increase the possibility of individuals identifying with themselves. Keeping the estimate of risk high is not easy, but an ***important component of spread control.***

Another general important factor in the balancing and coping mechanism is ***reduction in the stress created by any recommendations*** that necessitate changes in behaviour. This makes it more likely that people will make the changes.

One way this can be done is by ***decreasing the severity of the changes recommended***. The change will also seem less stressful, if ***everyone else*** is already behaving in the way prescribed or we believe that we and others will change because of ***penalties*** for not following the recommendations. (This is similar to why people do or do not use their cell phones when driving. This behaviour is not easy to change either.)

If the recommendations demand larger changes in behaviour, then it will be necessary to either impress upon the population that the danger has greatly increased or else that the behavioural change is to be rewarded or violations of it punished. An example of reward/punishment can be seen in Hong Kong, where citizens under a Quarantine Order, can apply for $100/day allowance. If an individual violates their Quarantine order they can be required to wear an electronic tag. https://www.gov.sg/article/everything-you-need-to-know-about-quarantine-orders

It will usually be most effective to have ***very stringent recommendations/regulations in the beginning*** and then reducing them somewhat when people have stopped spreading the virus. It is, of course, important to ***not reduce restrictions to quickly, but to have a controlled reduction***, as it will be difficult to reimpose.

Since even if a population has eliminated the virus, the virus can be reintroduced from another population. Therefore it is important to have as much cooperation between different populations as possible. I repeat the quotation I made earlier from the ***2020 Goalkeepers report***:

> ***There is no such thing as a national solution to a global crisis. (p.3.)***

Chapter 20 – National Strategies

Sometimes those that think they

Know best, are a real pain to us,

Who know better...

The present Covid-19 pandemic should not have been a surprise to any epidemiologist. Amongst others, Bill Gates had given warnings and recommendations of how to prepare for coming problems. Already in April of 2015, Bill Gates gave a Ted talk on ***The Next Epidemic - Lessons from Ebola***. The responses to Covid-19 show clearly that few countries heeded these warnings. There were, however, a few countries that were prepared with resources to cope with and handle the threat and those I have mentioned above in ***Chapter 8 – The First Strategies and Chapter 14 – Japanese Comparison.***

All countries are, of course, not the same. There are many characteristics that can make it more or less difficult to keep the spread low or eliminate it. There are both physical differences such as population density, topographic differences such as forest coverage, parks, apartment complexes, etc, and cultural differences such as greeting customs (handshaking, hugging, bowing, etc.), and living arrangements.

The Nordic countries are countries with physical characteristics that are somewhat optimal for the containment of an infection. They have relatively low population density, are surrounded on most sides by water, and have a lot of open area. Their present cultures encourage relatively small family units and except for families with children under 18 years of age, different generations do not often live together. One might have expected cooperation between these countries and perhaps the creation of a bubble such as the eastern provinces of Canada created with perhaps much the same results (almost no infections and very few deaths).

Tegnell promoted the Swedish strategy as an experiment when in June he said:

> ***“Sweden is one of the few countries that has worked up a stop more and more. All other countries started with a lot of things at once, and the problem with that is that you don't really know which of the measures you have taken has the best effect. Maybe we know that now when you start taking action off one by one.”***

In essence, he said that by starting with a few restrictions and then adding one at a time, you can see what is having an effect. This is, of course, a type of experiment. By seeing how many get sick and how many die at different times, you can see what actions have what effect.

I, of course, maintain that an ***actual pandemic is not the time*** for an experiment. I maintain that having as the main goal to stretch out infections and deaths over a longer time is not a humane goal.

In a pandemic, the ***main goal should be to reduce serious suffering and death as much as possible***. With this as a goal, then the obvious strategy is to restrict the spread of the virus as much as possible. Since the Covid-19 virus is spread by people coming in relatively close physical contact with one another, then recommendations, regulations, laws, etc. will be aimed at reducing contact between people as much as possible. As stated earlier it is important to impose the most stringent recommendations at the start when the danger estimation is highest.

Many countries do have far from the optimal conditions that the Nordic countries have. Countries such as Italy, which was very early hit by Covid-19, has a high population density and a large proportion of multi-generational housing. Thus it is difficult for such countries to find a successful strategy.

In the present case with Covid-19, it is clear that the countries that have been most successful in keeping infections and deaths low were better ***prepared with equipment and routine***s and they quickly enforced:

1) physical distancing,

2) use of masks,

3) tracking, contact tracing and

4) extensive testing.

As explained above, the effect of restrictions will vary depending upon ***WHEN*** they are put into effect. If a major change in behaviour is expected/demanded, individuals' behaviour will depend partially upon ***how great they believe the danger to be*** at that time and it is clear that estimates of danger can vary greatly over time.

Normally it can be expected that in the early days the estimate of danger will rise, probably quickly, as the effects of the danger become more and more public and obvious. It may take from 2-3 days up to a month or so, for the media to spread information and messages from authorities. It is important that this information reaches all sections of the population. This may mean that the information must be spread in ***a number of languages*** and spread ***in different ways***, including probably, national TV and radio, national and local newspapers, internet and telephone apps, etc.

After a further period of time (1-6 months), many if not most people will become accustomed to the situation and therefore will tend not to be motivated to change even more. ***This means that physical distancing, mask wearing, working from home, etc. must have become common routines early on,*** if they are to be continued when the sense of danger decreases. (Remembering that ***sense*** of danger and ***actual*** danger can be extremely different.)

In terms of stress, ***extreme negative stress can be used in the beginning to motivate people to change***. Negative stress ***over a***

longer time, however, can have very detrimental effects on individuals and therefore it is important to create a condition where stress is reduced while maintaining the new behaviours necessary to reduce and stop the spread of the virus. Thus, it is ***important that changes become routine*** and this is most likely to occur if recommendations have been consistent.

Of course, national strategies should include ***preparations/defenses*** for highly probable coming attacks on the nation’s population. This includes ***stockpiling*** necessary equipment to battle such attacks. It also involves ***educating*** individuals and/or groups of people that may have to engage in the prevention/battling of these problems. There needs, for example, to be a group (or groups) prepared for tracing/tracking routines.

> ***"But a recent study by Columbia University suggests that if New York had implemented lockdown measure two weeks earlier, it would have prevented tens of thousands of deaths," Prof Shibuya notes.***

https://www.bbc.com/news/world-asia-53188847

It is also important that the governmental source/individual presenting the important changes in behaviour gives an impression that carries ***weight in the particular culture***. In much of western society this will include giving the ***impressions that scientific knowledge lies behind the strategies.*** This may involve explaining to people that they are responsible for their actions and the results of their actions. It is possible that just telling people that they ***are responsible people*** as done in Sweden may make some difference, depending upon what each individual decides being responsible means. I would, however, point out that Governor Cuomo in New York did not tell citizens that they were responsible, but rather encouraged them to ***take responsibility***. He later told them that results showed they were being positively responsible and they needed to ***continue taking responsibility for themselves and for others.***

Part of preparing for a pandemic (or other major catastrophes) includes of course preparations for negative results of the strategy employed, such as a necessity for quarantine or increases in domestic abuse or high levels of depression, unemployment, etc.

Countries can also use the greater risks for sickness and death to encourage their populations to become healthier, since it is clear that a number of sicknesses increase the risks. (It is unfortunate, but we know that in that short run such motivational risks tend not to have much effect. Smoking risks is an example.)

> ***A recent report by the United States Centers for Disease Control and Prevention found people with underlying medical conditions such as heart disease, obesity and diabetes are six times more likely to be hospitalised if they get Covid-19 and 12 times more likely to die.***

https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html

Chapter 21 – Other Catastrophes

We all certainly know as the captain of the Titantic did:

“It will never happen to me.”

This book has discussed methods to prohibit the spreading of a virus and the importance of understanding how people react to stress, including stress caused by recommended changes of behaviour. There are, however, a number of other occurrences which can also call for a population to change their behaviour.

There is always some risk of war or terrorist disruptions in a country, where the military and/or police forces are expected to be the main protectors of the population. In this book, I do not intend to propose any methods for preparing for or handling such situations.

Rather I am concerned here with unintended occurrences such as other kinds of disasters that can result in stress and necessitate changes in behaviour.

Many of us do not think about the possibility of accidental nuclear explosions or natural disasters such as major weather disturbances caused by climate change, earthquakes, tornadoes or CME, although climate change has become a prominent subject and some people do live in areas that presently have major weather problems such as tornadoes, hurricanes and vast wild fires.

Those people affected by these latter occurrences will certainly have many of the same stress problems that I have discussed earlier in this book. A major difference will usually be that these occurrences are acute, but often short term and relatively local. Negative effects must initially be handled quickly.

There are, however, other “natural” occurrences that can have major continental and global effects. Small coronal ejections which occur relatively often are not especially dangerous. However, a major Coronal Mass Enjection (CME) could have horrendous effects. The last time a major CME struck the earth was 1859, although a moderate one did hit Quebec, Canada in 1989. Some solar physicists say that there is a ***10% chance that a 1859-sized CME will hit the earth in the next 10 years***, and a 50% chance within this century. Such a CME could knock out satellite navigational systems and grid electricity for large parts of the planet for many months. What will happen in your country and the world’s economic system if and when this occurs? Are you personally prepared and is your country?

And what would happen if the present climate crisis of our warming planet should be “cured” by a ***gigantic volcano eruption*** such as the Tambora, Indonesia in 1815. The eruption killed approximately 100,000 people and because of the “cloud” around the world, global temperatures decreased about 3 degrees. Fortunately, we will probably be forewarned of such since there is good monitoring of volcanos these days. Of course, sometimes predictions can be difficult.

Although astronomers have become very good at predicting the paths of ***larger meteorites***, just this year a smaller meteorite came relatively near the earth with a very short forewarning. This was because there is a blind spot for meteors that come from the direction of the sun. Tracking of meteors is done only at nights using optical telescopes. At present the USA is working on developing a telescope that could be used for detecting smaller meteors coming from the sun’s direction. NASA hopes to have this in use by 2025. Probably any larger meteor on a collision course with the earth will be discovered far in advance and we will hopefully be able to prepare to some extent, although NASA warns that there is a real threat that there could came a meteorite that wipes out a whole state.

Of all these threats, probably pandemics are the most likely. Hopefully, after this present one we will be better prepared for the next. Of course, the next one could be worse, having for example a much higher death toll, killing more younger people. What if it comes soon, before we have recovered from the present pandemic or what if it comes at the same time as a major CME, or a large volcano eruption or an asteroid collision.

As individuals our best preparation for possible/probable future catastrophes is probably to ***learn how to control stress***, so that we can think calmly and logically. Persuading friends to prepare in the same way can probably help as well. We are all in this together.

As citizens of a country and humans of the world, we could be well advised to ***agitate for our country to prepare in various ways***, remembering at the same time what I noted a couple times earlier, the words from the ***2020 Goalkeepers*** report:

> ***There is no such thing as a national solution to a global crisis. (p.3.)***

Probably the most important and basic way to prepare is to develop a more equitable human system where wealth is distributed more evenly between people with different backgrounds and from different parts of the world.

https://www.globalcitizen.org/en/

https://oneshared.world/

Alternate Chapter 3 – More stress and coping theory

I think I'll feel better
when we can make sense of this mess.

Many of you will have heard of Hans Selye's stage theory although perhaps not by that name. Already in 1995 Selye became interested in the *"syndrome of just being sick"*, as opposed to the particular symptoms of particular diseases. Eleven years later, he published his first paper on the *"syndrome of stress"*. General reactions to stress are always the same, and his thesis was that

> ***the organism responds in a stereotyped manner to a variety of widely different agents, such as infections, intoxications, trauma, nervous strain, heat, cold, muscular fatigue, and X-irradiation. (1979, p. 12)***

The response he called *"alarm reaction"* which developed into the General Adaptation Syndrome (G.A.S.):

> ***(a) Shock phase, the initial and immediate reaction to the noxious agent, various signs of injury such as tachycardia, loss of muscle tone, depressed temperature and blood pressure are characteristic symptoms.***

> ***(b) Countershock phase, a rebound phase marked by the mobilization of defensive forces. This phase merges into the next defensive phase, during which the adrenal cortex is enlarged and secretion of adrenocorticoid hormones is increased.***
>
> ***Stage of resistance. This is marked by full adaptation to the stressor during which symptoms improve or disappear. There is, however, a concurrent decrease in resistance to other stimuli.***
>
> ***Stage of exhaustion. Since adaptability is finite, exhaustion inexorable follows if the stressor is sufficiently severe and applied for a prolonged period of time. Symptoms reappear and if stress continues unabated, death ensues. (1979, p. 17)***

In a somewhat more modern stage theory, Healy (1988) wrote:

> ***"Individuals in the autonomous stance may experience more conflict about personal projects***

> ***and doubt their ability to succeed, or waiver in their commitment to them" (p. 125).***

These basic stages are more or less accepted with the provision that the individual can break into the system at different stages. How one does this is often called coping

Many researchers have found that an individual's social network is related to his or her selection of coping strategies. Social support can relate to adaptation in two very different ways: firstly that being an integral part of a social network is often assumed to be imperative if one is to feel good about oneself, and secondly, social support acts as a buffer to stress and its negative consequences (Lazarus, 1984, p. 245-246). While the majority of this research indicates or assumes that social networks are positive, social contact can also be negative.

Zeijderveld (1971) in his book, *The abstract society,* takes up the central role that "control" plays and that the individual "needs" control of his private sphere to maintain his identity.

This feeling of “need for control” occupies a central place in much theory and ever since Rotter first introduced the idea of internal versus external control into psychology in 1966, most studies concerning coping refer to the role of control attribution.

With his books, ***When prophecy fails*** (1956), and ***A theory of cognitive dissonance (***1957***),*** Festinger’s theory of cognitive dissonance raised questions concerning how individuals change their thinking to correspond with incongruent events around them.

The title of Festinger’s book (1964), ***Conflict, decision and dissonance***, indicates a main tenant in dissonant theory, namely, that thought processes before and after the making of a decision differ in relation to the decision.

Festinger (1964) also points out two important major methodological/ theoretical problems that always arise when trying to examine an individual’s thought processes and which are still often disregarded, namely:

> ***First, it is difficult if not impossible, to ask meaningful questions without putting***

> ***thoughts into the person’s cognition, or into his mouth, which were not there before. Second, it is probably not possible to interrupt the cognitive process without interfering with it and distorting it. (p. 62)***

However, these demands are of relatively little importance in understanding why individuals behave as they do and their major thrust is that coping is a process involving *interaction* between the environment and the individual.

Lazarus and Folkman’s (1984) write for example:

> ***Psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being. (p. 31)***
>
> ***Cognitive appraisal is an evaluative process that determines why and to what extent a particular transaction or series of transactions between the person and the environment is stressful. (p. 31)***

> ***Coping is the process through which the individual manages the demand of the person-environment relationship that are appraised as stressful and the emotions they generate. (p. 19)***
>
> ***Cognitive appraisal can most readily be understood as the process of categorizing an encounter, and its various facets, with respect to its significance for well-being … largely evaluative, focused on meaning and significance, and takes place continuously during waking life. (p. 31) [italics added]***

They also hypothesize that

> ***"the greater the ambiguity, the more influence person factors have in determining the meaning of the environment configuration" (p. 104).***

Inglehart (1991) combines various aspects of different theories and extends, in particular, Festinger's work on cognitive dissonance. She advances what she calls ***"The generalized principle of cognitive consistency"*** built around a number of concepts. One such basic concept concerns ***critical life events***. two hypotheses (1991, pp. 71-75) concerning the two main possible reactions to critical life events, namely, ***avoidance*** or ***tension reduction***. Which of these reactions the individual chooses is based on the ***principle of least effort***. This principle states that the reaction chosen is based on the cognitive availability of alternate reactions, which is in turn based upon the individual's prior experiences and the objective availability of alternatives.

Probably cognition is most often identified with conscious thinking. It is, however, often the case that activities going on in our brains, of which we are not conscious, give rise to much of our outward behaviour.

As quoted earlier, Lazarus and Folkman (1984) define psychological stress as

> ***a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being. (p. 19)***

Here we define psychological stress as ***the relationship (feeling) that exists when the environment is experienced as demanding a response.*** This experiencing may occur at either the conscious or unconscious level. For example, I would consider that a stress relationship exists, when, while waiting at the start of a race, a participant’s pulse increases, *even if* the participant is not consciously aware either of this increase in pulse nor of what to an observer may appear to be extensive nervous behaviour. According to this definition a stress relationship also exists when I sit at a table with food on my plate and experience a demand of either lifting the peas or potatoes to my mouth. This demand may be at the unconscious or conscious level.

According to Lazarus and Inglehart, when an individual is faced with a critical life event, some adaptation is made in order to gain and/or maintain cognitive consistency. We maintain that a ***basic anthropological condition of the human i***s this basic stress situation, a situation which is experienced as including some type, if ever so slight, of demand for action. It is then ***the acting (reacting) in each situation that I define as coping. How we react physically, mentally, and emotionally are all intertwined in a complex of being human, which is often more complex than the***

reactions of other animals because of the human's ability to reflect.

These appraisals may lead to *both* specific emotional qualities ***and*** general arousal. In addition both appraisals and arousal are part of a *continuous process*.

It seems that much of what has happened within different areas of different societies indicates that ***even partial knowledge of processes can be used to predict major effects.*** The most obvious areas are within the "physical/mechanical" area where fast transportation has been built and some diseases wiped out, but even within areas such as marketing and voting behaviour, partial knowledge appears to be a good basis for group prediction. I do of course believe that predictions of how individuals will think and/or behave are more tenuous, but not impossible.

No matter how one twists and turns the issue, the question of successful or unsuccessful coping (or adaptation) becomes almost always (if not always) a normative question. However, using my definition of coping, the question of successful or unsuccessful coping is not an issue*.* ***Coping is***

a continuous process, a continuous reaction to a basic human anthropological condition of experiencing situations as demanding some type of response. Thus no response is not an end product but rather one part of a chain.

Durkheim (1951) believed that society needs an overarching symbolic order (which he named “religion”), but Berger and Luckmann (1967) propose that this is only true if the society is exposed to an existential threat. They point out for example that in modern pluralistic societies, laws, such as traffic rules, are not needed to prevent such a threat. Rather such rules/laws are introduced for the individual’s own personal interest and do not involve sacrifice.

However, with no “religion”, no overarching order, no “God-given” right and wrong, meaning must still be given and integrated into the individual’s identity. Thus, today we have many new institutions to help the individual “find” meaning: psychotherapy, curators, personnel officers, special courses, mass media, and the knowledge industry.

Lazarus and Folkman (1984) maintain that

> ***humans are meaning-oriented, meaning-building creatures who are constantly evaluating everything that happens, which is a constructionist rather than positivist position. (pp. 276-277)***

This is in line with Luckmann (1967) who asserts that ***"a basic anthropological fact: the transcendence of biological nature by human organisms"*** *(p. 69).* In short one could say that the human organism's need for meaning is related to their (self-)consciousness.

Berger and Luckmann (1967) in their classic ***Social construction of reality: A treatise in the sociology of knowledge,*** discuss how personal identity has become a private phenomenon in modern western society, while at the same time ***"Identity is ultimately legitimated by placing it within the context of a symbolic universe" (p. 100).***

Luckmann continues this analysis in *The Invisible Religion* (1967) where he argues that the individuation of consciousness can only occur in a social context. It is only within a social context that the individual sets goals, acts, and evaluates his or her actions. It is only within the social context that meaning can exist for the individual. As Berger & Luckmann (1995) write:

> ***Meaning is nothing but a complex form of consciousness: it does not exist independently. … Meaning is consciousness of the fact that a relationship exists between experiences. (p. 11)***

From birth children are incorporated into social relationships and progressively learn to understand the actions and meanings of others, and consequently the meanings of their own actions. The “successful” learning of these things is central to the constitution of personal identity, the essence of which is ***“subjective control of action for which one is objectively responsible” (p. 19).***

As the child learns its place within this social stock of meaning it develops a personal identity. The initial process is termed primary socialization and lays the basis for personal identity, which is later built upon through secondary socialization. This secondary socialization helps the individual fit into his social roles, in particular in the life-world of work. Thus **"structures of society become structures of consciousness" (p. 42**). Obviously in most of our modern pluralistic societies, primary socialization takes place within the nuclear family, even though the family may take a variety of forms, while secondary socialization takes place outside of the home. (pp. 18-42)[1]

We are born into communities of life ***"characterized by regularly repeated, directly reciprocal action in durable relations… Communities of life presuppose a minimum of common meaning" (p. 20).*** In traditional societies it was usually expected that communities of life and communities of meaning would be more or less congruent, while in modern pluralistic societies this is not the case. Rather we tend to move between communities of life (work, leisure time, and family) and are left to build a community of meaning elsewhere.

In other words the individual grows up and lives in a world where the ***"official world***

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[1] I do not intend to deal with the influence of TV or the computer and whether or not these media are part of primary or secondary socialization nor if they are primarily considered to be "home" or "external" influences.

view” consists of only a few superordinate values concerning coexistence and must therefore look elsewhere for biographical meaning.

> ***If communities of life and meaning really overlap to the extent that is demanded by social expectations, then social life and the existence of the individual proceed habitually almost “by themselves” ... individuals know who they are. (p. 40)***

In modern pluralistic society, however, where communities of life and communities of meaning overlap only to a very limited extent, other possibilities are necessary if individuals are to know who they are and why they act. To this end *“intermediary institutions”* which help in the process of stabilization of meaning and self-identity have grown up.

Small life-worlds

Benita Luckmann (1970) in **The small life-worlds of modern man”** writes of ***“separate institutional spheres***” which lead their own lives and of the individual’s attempt ***“to pick up the loose strands of his existence and fit them together as best he can”*** (p. 585).

The solutions entail the building of small life-worlds in which

> ***a. life-worlds are being constructed from modern as well as traditional elements of small-world existence patterns, or,***
>
> ***b. in which attempts are being made to create new designs for "whole and lasting communities," using hedonistic, theoretical, "scientific," but also romanticized historical "models" of communal life. (p. 587)***
>
> ***These modern life-worlds are "small, comprehensible and knowable" (p. 589). Each individual is a part-time citizen in a number of such worlds which he attempts to form into a biographically, meaningful whole, centered around one of them. Luckmann singles out "three omphalic small worlds," namely those of family, ecological community, and work, which are undergoing significant change. (p. 591) The question arises, of***

> ***course, as to whether Luckmann’s ecological world is any longer geographical or whether it has perhaps been replaced as a central world by other “leisure-time” or “life-style” worlds[2].***

It is here being proposed is that in modern pluralistic society, the individual can, and usually does, have more than one community of life. Influenced by parents, school, TV, etc. the individual moves between these different life-worlds. In order, however, for the individual to build a life biography, he or she focuses upon or singles out a central world.

The small life-world of sport

As all life-worlds, the life-world of sport has many aspects, norms and values. “All or nothing” has for example become an accepted motto for many people. You aim for the top and only wins are counted.

Not too many years ago it was believed that one was born with the qualities of performing well or choking in crucial situations, but now modern athletes spend a lot of time and energy training to be mentally better at coping with stressful situations and learning to peak for important competitions. Mental training takes many forms, and although since Uneståhl’s 1981 ***Self-control through mental training,*** there has been a mushrooming of books in the area, this is still a relatively new area for research. Why and when athletes perform at their best in stress situations is a complicated subject.

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[2] Here one might include the more traditional hobbies or sports as well as “newer” ecological movements such as Green Peace,.

It is not difficult to understand how a sport can become a central life-world for the elite athlete who plans a large proportion of his/life around training and competing, but the area of sport is much more complex than this. It contains not only the “problems” and culture of elite athletes, and the potential elite, and but also purely recreational “athletes”. In different countries sport is organized in very different ways.

Profile of Author

The author has had a varied background with approximately 11 years of university education mostly in Sociology and Social Psychology, but also one or more years of Statistics, Anthropology, Economics, Philosophy, English Literature.

He has taught many years at Canadian universities in Waterloo and Guelph and Swedish universities in Göteborg and Borås, teaching mostly, Research Design, Statistics and Sociology, as well as supervising 30-40 senior essays, mostly in Special Education. He has completed all course work for a doctorate in Sociology and a doctorate in Education, but his only written thesis is a Magisters thesis in Education. This thesis was based on a two-year study of Swedish orienteers after a series of sudden deaths among male elite competitors.

Intermediately he had a few years as Provincial sports coordinator in Nova Scotia for orienteering and cross-country skiing, been Director of a home for mentally handicapped people with a staff of 53 in Stockholm, run an Optical business in Borås, Sweden for a few years, been part-time consultant for youth treatment centers and worked for the Swedish postal service delivering mail.

Athletically he has competed for Canada in 4 world orienteering championships, and coached the Australian Orienteering team for two years as well as training and driving race horses in Canada 1978-82. Best athletic result was running for Sweden at the European Masters Championships in 2009 where he won a Gold medal in the 800 m.

2011 he organized an international meeting in Bulgaria for SIGHT coordinators in MENSA.

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